C 175

COLONY AND PROTECTORATE OF KENYA

MEDICAL DEPARTMENT ANNUAL REPORT
1945

INCLUDING

INSECT BORNE DISEASES DIVISION ANNUAL REPORT 1945

MEDICAL RESEARCH LABORATORY ANNUAL REPORT 1945

LONDON SCHOOL OF HYGIENE
LIBRARY
-2 DEC 1949

Price: Sh. 5/-

1947
PRINTED AND PUBLISHED BY THE GOVERNMENT PRINTER
NAIROBI, KENYA COLONY

To be purchased from the Government Printer, Nairobi, or
The Crown Agents for the Colonies, Millbank, London S.W.

50,031

COLONY AND PROTECTORATE OF KENYA

MEDICAL DEPARTMENT ANNUAL REPORT
1945

INCLUDING

INSECT BORNE DISEASES DIVISION ANNUAL REPORT 1945

MEDICAL RESEARCH LABORATORY ANNUAL REPORT 1945

1947
PRINTED AND PUBLISHED BY THE GOVERNMENT PRINTER
NAIROBI, KENYA COLONY

To be purchased from the Government Printer, Nairobi, or
The Crown Agents for the Colonies, Millbank, London S.W.

50,031

MEDICAL DEPARTMENT HEAD OFFICES
NAIROBI.

Sir,

I have the honour to submit for the information of His Excellency the Governor, and for transmission to the Right Honourable the Secretary of State, the Medical Report on the Health and Sanitary Conditions of the Colony and Protectorate of Kenya for the year 1945, together with the Returns, etc., appended thereto.

I have the honour to be,
Sir
Your obedient servant,
N. M. McLENNAN,
Director of Medical Services.

The Honourable the Chief Secretary, Nairobi.

Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

https://archive.org/details/b3149335x

CONTENTS

PAGE
INTRODUCTORY 1

SECTION I.—ADMINISTRATION 1
Staff Changes during the year 7
Legislation 7
Financial 7

SECTION II.—PUBLIC HEALTH
Diagram showing General Systemic and Preventable Diseases 9
Diagram showing Infectious Diseases 10
General Diseases 12
Communicable Diseases 13
Mosquito or Insect Borne:
Malaria 13
Trypanosomiasis 14
Plague 14
Typhus 14
Relapsing Fever 14
Onchocerciasis 15
Infectious Diseases 15
Smallpox 15
Pneumonia 15
Venereal Diseases 15
Tuberculosis 16
Enteric 16
Dysentery 16
Diphtheria 16
Cerebro-spinal Fever 16
Anthrax 17
Undulant Fever 17
Leprosy 17
Helminthic Diseases 17

SECTION III.—HYGIENE AND SANITATION
A. General Review of Work Done and Progress Made 17
(1) Preventive Measures: 17
Mosquito and Insect Borne Diseases:
Malaria 17
Yellow Fever 18
Trypanosomiasis 18
Onchocersiasis 19
Plague 19
Smallpox and Vaccination 19
Dysentery and Enteric Fevers 19
(2) General Measures of Sanitation 19
(3) School Hygiene 21
(4) Labour Conditions 21
(5) Housing and Town Planning 21
(6) Food in Relation to Health and Disease: 22
Markets, Dairies and Slaughter Houses 22
Food Supplies 22
B. Measures Taken to Spread the Knowledge of Hygiene and Sanitation 23
C. Training of Sanitary Personnel 23
D. Recommendations for Future Work 23

PAGE
SECTION IV.—PORT HEALTH WORK AND ADMINISTRATION 24
Sea Ports 24
Air Ports 25

SECTION V.—MATERNITY AND CHILD WELFARE 26

SECTION V.—HOSPITALS, DISPENSARIES, OUT-DISPENSARIES, VENEREAL CLINICS, THE MENTAL HOSPITAL, MEDICAL WORK CARRIED OUT BY MISSIONARY SOCIETIES, ETC. 29
Table of In and Out-patients Treated at Government Hospitals, Dispensaries and Out-Dispensaries:
In Townships 29
In Turkana, Northern Frontier Province and Lamu 30
In Native Reserves 30
Surgery 31
Anæsthetics 31
Eye Clinic 34
Training of Africans 35
Venereal Clinics 35
Medical Work Carried Out by Missionary Societies 35
Prisons and Asylums 35
Mathari Mental Hospital 36

RETURNS.—TABLE I. Staff 5
TABLE II. Financial 39
TABLE III. Return of Statistics of Population 39
TABLE IV. Return of Diseases (In-patients) 40
TABLE V. Return of Diseases (Out-patients) 52
TABLE VI. Meteorological Returns 63

ANNUAL REPORT OF THE DIVISION OF INSECT BORNE DISEASES FOR 1945 .. 65
ANNUAL REPORT OF THE MEDICAL RESEARCH LABORATORY FOR 1945 68

MEDICAL DEPARTMENT ANNUAL REPORT
1945

INTRODUCTORY

The conditions of staff shortage described in the Annual Report of the Medical Department for 1944 continued unmitigated during the year 1945, while the pressure on the whole of the health services of the Colony continued to rise.

In these circumstances, the resources of the Department were severely strained to meet the day to day calls upon it. Demands for increased hospital and other facilities were continuous and a new high level in the numbers receiving treatment as in-patients and out-patients was established.

The main preoccupation of the Department during the war years was to consolidate within and maintain the existing services with a staff position that admitted of little flexibility. But even so, and despite difficulties, it was possible to bring about a not inconsiderable extension of curative facilities, which will be mentioned in the following section.

In another direction advances of the most significant nature took place during the year. During the war consideration had been given to the provision of health services and the problems of the public health of all communities. Stimulation through the quickening of public conscience, by development elsewhere, and by the hopes of post-war progress, led to the crystallization of ideas on the organization of health services for the country and to every hope for their final implementation.

The plain opportunity which recent political events in the Colony offers for a complete and integrated health service for all communities already throws into relief the present gaps and anomalies in the existing services. Hospital accommodation is in many directions inadequate, and a higher standard of specialization is clearly called for. Vital statistics are woefully deficient and research is urgently required into many aspects of the health of the people. The inescapable pressure of a greatly increasing population upon land of decreasing power of maintenance is presenting problems of vital importance. There is almost unlimited scope for development in housing, water supplies, sanitation, nutrition and specific measures of disease prevention.

The general outlook upon disease prevention has been to some extent altered by the production of the potent new insecticides, and of therapeutics such as Penicillin, with the possibility of the early introduction of other important agents; and it is difficult so far to evaluate their full significance in preventive medicine.

Important as this development is, it is yet clear that the considerable enhancement of preventive, as opposed to curative measures, is at this stage obviously desirable and necessary. The great public health problems require pressing and urgent attention. While, therefore, it is to be agreed that hospital accommodation needs considerable improvement, it is now hoped that a preventive service can be integrated with the proposed development plans for the Colony. It would be a mistake, however, to consider this as in any way separate. It is indeed necessary that it should be part of the indivisible whole of a national service. And here, the position can be no better expressed than it is in the Report of the National Health Services Commission of South Africa, as follows:—

> "To-day, in short, advanced medical thought everywhere has come to realize that there should be no sharp division, even in administration, and still less in presentation to the people between promotive, preventive, curative and rehabilitative health services. All should be integrated in a comprehensive planned health service. Such a service would aim to secure not only the absence of disease, but also the *maximum degree of physiological and mental efficiency*. In its fulfilment it should bring to the individual citizen greater creative power, fuller strength, prosperity, social contentment, and enriched enjoyment of all that is good in life.

> Yet another great change in outlook has emerged. Instead of regarding the health of the individual as purely his own private concern, it is now beginning to be realized, in conformity with modern social and economic trends, that the health of its individual members is of great importance to the community as a whole; and that when people are sick or unemployed, not only must they be cared for on humanitarian grounds, but that in the process they can be transformed from liabilities into assets on the economic plane.
>
> The main emphasis of modern health services, then, should be laid upon prevention. Preventive, or as some prefer to call them, 'promotive' services, properly organized and geared for the attainment of positive health, might be expected in their ideal form to eliminate the need for dealing with established disease. But because of the legacy of ill-health from the past, because of the imperfections of our present system, and because of the persistence of certain non-preventable diseases and injuries, there will remain the need—at any rate for many years to come—of adequate palliative, curative and rehabilitative services."

No one would dispute the underlying principles of this statement. What the method of application in this Colony would be will, doubtless, require the most careful thought; but the proposals regarding development will offer an opportunity for consideration of the matter. Meanwhile, it is to be stressed that at the earliest opportunity there should be far greater concentration upon preventive health measures than has for a long time hitherto been possible.

It is not, however, to be assumed that little has of recent years been achieved, since this would not be correct. A noteworthy extension of hospital accommodation, over that available in 1939, has been brought about. In the preventive sphere valuable work has been augmented by the operations of the Insect-borne Diseases Division; while Local Authorities have made remarkable progress with social services.

Nevertheless, there is every case for the further expansion of health services on a much wider and more comprehensive basis, and in this it is clear that training of Africans to play a full part in the work must be undertaken to a very much greater degree.

I should wish to conclude this introduction with a tribute to all members and sections of the Department. Extra burdens during the war years were heavy and continuous and I desire to express high appreciation of the willingness and loyalty constantly displayed by all the staff.

I.—ADMINISTRATION

A political development of the utmost consequence to the health services of the Colony was the proposal by Government, in Sessional Paper No. 6 of 1945, to appoint a Member for Health and Local Government, who would be a member of the Executive Council. The delegation of responsibility for the two major health agencies in the country to a single member not only ensures that the policy of these two agencies shall be closely co-ordinated, but provides a nucleus to which all other agencies, at present independent, may be attached.

One further and major development also occurred. In 1944 a Hospital Fees Committee was set up—

(*a*) to consider and report by what means the cost to individual patients of treatment in Government European Hospitals can be reduced and how far such proposals can or should be made to apply to treatment at non-Government hospitals and nursing homes;

(*b*) to consider and report by what means the cost of maternity services to Europeans can be reduced.

In its Report, the Committee put forward a proposal for compulsory hospital insurance of all Europeans and, in addition, for the setting up of a Hospital Authority whose function should be extended until it becomes the authority responsible to Government for the provision of European hospital services throughout the country. Government accepted the recommendations of the Report in Sessional Paper No. 4 of 1945, and legislation was introduced to permit of a portion of the taxation involved being levied in 1946.

A very important principle is involved in this proposal, that, for development of such personal services as hospitals, a body representative of the community concerned shall determine the standard to be adopted and the extent of the services required. This may be of significance in connexion with the different personal and social standards of the three main communities. The financial scheme proposed allows the community concerned to spend upon its service—with a fair contribution from central revenue—as much as it would be prepared to tax itself to provide. There is, therefore, adumbrated a method by which the very real problem of providing entirely from central revenue hospital services, which may be of varying standard and degree, and at different *per capita* costs for taxpayers of different communities, may be overcome.

In operation the scheme will yet require the settlement of much detail, including the relations to be established between the Authority and those existing hospitals constructed and operated by local initiative.

An Asian Hospital Committee was set up during the year, to consider the problem in a similar fashion from the Asian point of view, and it is possible that proposals on much the same lines to those adopted for the European community will prove acceptable.

In any case, it is of extreme importance that considerable improvement be brought about in the existing Asian hospital accommodation, which can only be described as highly unsatisfactory. This problem is capable of solution under the proposed development plans, and should be undertaken with resolution. The increasing population and demand for higher standards is all the more reason why the existing inadequacy should be improved to a reasonable degree; and this remark has some applicability also to the question of European hospital accommodation provided in certain areas.

Investigation into costs of medical requirements for the individual has, however, proceeded further, and a Medical and Surgical Fees Committee, to consider the cost of treatment, as distinct from hospitalization, is likely to eventuate.

In other matters, the amended International Sanitary Conventions of 1944 were ratified by the Secretary of State on behalf of the Colony, and the obligations thereunder were assumed.

The visit of Professor Seddon was a welcome and noteworthy event, important not only for the advice and assistance given by him, especially in regard to orthopoedics, but also as a means whereby professional isolation can be broken.

Unfortunately the visit of Professor McSwiney to advise on medical research had to be postponed.

Medical Services for Africans

Mention was previously made of deficiencies in the existing services. The extra accommodation provided has made no difference to the extraordinary pressure thereon, and gross overcrowding has been little, if any, relieved; and a state of equilibrium seems a long way off. Unfortunately, many cases of preventable disease should be kept from reaching a stage of hospitalization, and in time this should come about as preventive measures can be brought into play to an increasing extent. Nevertheless, it should not be thought from this that the position, at the moment, is by any means satisfactory.

Apart from the question of bed space, much again remains to be done to improve the native hospitals of the Colony. The condition of ancillary buildings leaves much to be desired, while the lack of reasonable and up-to-date facility and of provision for specialist treatment is a considerable handicap. There is, in addition, an increasing demand among Africans for a superior type of paying ward, and this should receive considered attention in planning extensions and improvements. There will, no doubt, be heavy demands against funds for development, but the question of general improvement to hospitals most certainly needs priority in consideration.

The high appreciation of the African of medical services and, indeed, of all social services, is a matter to which constant reference has been made. While this, and the added demands from other sources, has led to a position of sheer embarrassment, it has a virtue of which advantage might be taken, as African development proceeds, in that the African himself might contribute more to such services; and this may be worth examination.

Although deficiencies in the existing services are now markedly apparent and are undoubtedly more acute because of the delays in progress imposed by the war, it is yet the case that quite remarkable progress in certain directions has been effected during the war years. The occasion of the first report after the conclusion of the war is appropriate to recapitulate them.

In the first place, the first African ward block of the Group Hospital, Nairobi, was completed early in the war, together with African staff quarters. Still occupied by the Military, it is a very fine addition to medical facilities.

The general bed strength at various African hospitals throughout the country was increased by 700, but many more ward extensions were building at the end of the year. In addition, three new maternity blocks were occupied or in the course of completion at the end of the year.

New venereal diseases centres were opened in three areas.

New Cottage Hospitals were provided at Londiani and Taveta, and a third was in course of construction at Molo. A Rehabilitation Centre was opened in Nairobi and staffed; while an Artificial Limb Centre, on an inter-territorial contributory basis, was opened in conjunction with it. Apart from other staff, a physiotherapist and a limb-maker are employed at these centres, which, opened originally for the rehabilitation of war casualties, are proving a great benefit in civilian use.

In respect of projected buildings in Nairobi, plans were in the course of preparation for a new large General Dispensary and Health Centre, with all necessary specialist facilities, to be built on a site best suited for the African population and to replace the existing inconvenient and out-moded Dispensary.

Progress was also made with preparations for the completion of the Group Hospital, Nairobi, and it is to be hoped that this can be accelerated, since the present hospital is grossly inadequate in all respects.

Further projects will be considered in relation to development plans.

As already indicated, the maintenance of services for the Department, in view of the continuous shortage of staff during the war, was not achieved without difficulty and strain, and casualties. It is now quite clear that above normal recruitment further staff must be supplied if the existing and future commitments are properly to be met. In this direction the aim could be well attained in all respects if more African Medical Officers were available. At the moment, however, the number is only three, and the only accession to this number in the near future is five more at the beginning of 1948. Clearly it is most desirable and necessary that every effort be made to accelerate the flow of suitable candidates for training at Makerere, not only for general needs, but also in view of the considerable development and expansion projected.

The amount of medical relief provided and the cost thereof is shown below, and is compared with the two previous years:—

Year	Sanctioned Estimates	Actual Expenditure	Qualified Medical Staff	European		Asiatic and African		Out-dispensary attendances
				In-patients	Out-patients	In-patients	Out-patients	
	£	£						
1943	280,829	307,124	43	2,417	5,149	92,485	604,374	1,121,292
1944	319,689	344,767	51	2,746	7,177	112,822	589,963	1,033,447
1945	362,693	388,399	47	3,328	8,236	124,619	674,832	1,029,860

The staff which was retained to administer the public health and medical services provided by Government and its organization and disposition are set out in the Tables following, together with a descriptive list of the institutions which were maintained.

TABLE I.—AT MEDICAL HEADQUARTERS AND IN THE CAPITAL TOWN OF NAIROBI

	At Medical Headquarters and District Health Office	Medical Stores	Mathari Mental Hospital	European Hospital	Native Hospital, Prison Hospital, General Dispensary, Infectious Diseases Hospital, Railway Dispensary, Training Depot, Fort Hall Road Dispensary	Medical Research Laboratory
Ag. Director of Medical Services	1	..	..	..	..	..
Ag. Deputy Director of Medical Services	1	..	..	..	..	..
Ag. Asst. Director of Medical Services	1	..	..	..	..	..
Chief Health Inspector	1	..	..	..	..	..
Accountant	1	..	..	..	..	..
Medical Storekeeper	..	1	..	..	..	..
Assistant Medical Storekeeper	..	1	..	..	..	..
Clerks (European)	5	..	..	1	..	1
Senior Specialist Anæsthetist	..	..	..	..	1	..
Senior Specialist Surgical	..	..	..	..	1	..
Senior Specialist Ophthalmic	..	..	..	..	1	..
Medical Officers	..	..	1	1	6	..
Assistant Surgeons (European)	..	..	..	..	1	..
Wardmasters	..	..	..	..	4	..
Matrons	..	..	1	1	..	..
Nursing Sisters	..	..	..	17	9	..
Housekeepers	..	..	..	2	1	..
Superintendent, Mathari Mental Hospital	..	..	1	..	..	..
Superintendent, Infectious Diseases Hospital	..	..	..	..	1	..
Male Mental Nurses	..	..	4	..	..	..
Female Mental Nurses	..	..	4	..	..	..
Senior Pathologist	..	..	..	..	..	1
Assistant Pathologists	..	..	..	..	..	2
Biochemist	..	..	..	..	..	1
Entomologists	..	..	..	..	..	2
Laboratory Superintendent	..	..	..	..	..	1
Laboratory Technicians	..	..	..	..	..	5
Assistant Surgeons (Asian)	..	..	..	..	5	..
Sub-Assistant Surgeons (Asian)	..	..	..	..		..
Laboratory Technicians (Asian)	..	..	..	..	..	2
Entomological Field Officers	..	..	..	..	..	2
Issuers	..	2	..	..	..	..
Compounders (Asian)	..	1	..	..	1	..
Clerks (Asian)	5	3	..	..	2	1
Hospital Assistants	..	..	1	1	41	..
Hospital Compounders (African)	..	..	..	..	7	..
Clerks (African)	..	..	1	..	6	2
Laboratory Assistants (African)	..	..	..	..	74	..
Entomological Assistants (African)	..	..	..	..	41	..
Other African Staff (excluding Learners)	6	9	1	3	268	6
Asian Nursing Sisters	..	..	..	..	3	..

TABLE II.—IN THE LARGER TOWNS

	Mombasa	Kisumu	Nakuru	Eldoret	Kitale
Senior Medical Officers	—	1	1	—	—
Medical Officers	5	2	2	1	1
District Surgeons	—	—	—	—	—
Assistant Surgeons (European)	—	1	1	—	—
Wardmaster	—	—	1	—	—
Nursing Sisters	8	8	3	2	1
Senior Health Inspectors	—	1	1	—	—
Health Inspectors	2	1	—	1	—
Entomological Field Officers	2	1	—	—	—
Laboratory Assistants (European)	1	—	—	—	—
Laboratory Assistants (Asian)	1	—	—	—	—
Sub-Assistant Surgeons (Asian)	3	1	1	2	1
Compounders (Asian)	1	1	—	—	—
Clerks (Asian)	2	1	1	—	—
Clerks (African)	1	1	3	—	—
Hospital Assistants	7	5	7	2	2
Hospital Compounders (African)	2	—	2	1	1
Laboratory Assistants (African)	5	4	2	1	1
Other African Staff	146	99	92	25	33
Nursing Sisters (Asian)	3	—	—	—	—
Sanitary Assistants	—	—	2	—	—

TABLE III.—DISTRIBUTION OF STAFF—IN THE NATIVE AREAS, THE TURKANA DISTRICT AND NORTHERN FRONTIER DISTRICT.

	Senior Medical Officers	Medical Officers	Nursing Sisters	Health Inspectors	Aedes Overseer	Sanitary Overseers (European)	Sub-Assistant Surgeons (Asian)	Clerks (Asian)	African Assistant Medical Officers	Hospital Assistants (African)	Compounders (African)	Laboratory Assistants (African)	Clerks (African)	Health Workers	Sanitary Assistants (African)	Other African Staff
Kiambu	—	2	2	2	—	—	—	—	1	4	1	1	2	2	3	62
Fort Hall	—	1	1	—	—	—	—	—	1	7	1	1	1	2	3	49
Nyeri	1	1	1	1	—	—	1	—	—	5	1	1	2	3	3	60
Kerugoya	—	1	1	1	—	—	—	—	1	6	1	1	1	2	5	59
Meru	—	1	1	—	—	—	1	—	—	1	1	1	1	—	1	26
Machakos	—	1	2	1	—	—	—	1	—	5	1	2	—	2	6	61
Kitui	—	—	—	—	—	—	1	—	—	2	—	1	1	—	1	19
Kilifi	—	1	1	—	—	—	—	—	—	1	1	—	1	2	1	18
Malindi	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	13
Msambweni	—	1	—	—	—	—	—	—	—	3	1	1	1	2	—	35
Teita District	—	1	1	—	—	—	1	—	—	3	1	1	2	—	2	39
Kapsabet	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	19
Kabarnet	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	13
Tambach	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	7
Rumuruti	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	6
Maseno	—	1	—	—	—	—	—	—	—	3	—	—	1	1	1	9
Kakamega	—	2	2	1	—	—	—	1	—	4	—	4	2	3	1	97
Kisii	—	2	1	1	—	1	—	1	—	4	1	—	1	—	—	41
Kericho	—	1	1	—	—	—	—	—	—	3	1	1	1	1	—	30
Narok	—	1	2	—	—	—	—	—	—	2	—	1	1	—	—	24
Muriranjas	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12
Kapenguria	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Lodwar	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Lokitaung	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	17
Lamu	—	—	—	—	1	—	1	—	—	1	—	—	—	—	—	19
Wajir	—	1	—	—	—	—	1	—	—	2	—	—	—	—	—	41
Moyale	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—
Isiolo	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—
Kajiado	—	—	—	—	—	—	1	—	—	2	—	—	—	—	—	14
Ngong	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Mandera	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Garissa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Marsabit	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	3
Molo	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Londiani	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
Thomson's Falls ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5

INSTITUTIONS MAINTAINED

Medical Research Laboratory, Nairobi.
Medical Stores, Nairobi.
Medical Training Depot, Nairobi.

Health Offices and Hospitals in the Larger Towns

	Beds
Nairobi.—	
Native Civil Hospital (Asian 39)	459
European Hospital	45
Mental Hospital (European 15, Asian 26, African 294)	335
Rehabilitation Centre	59
Infectious Diseases Hospital (European 18, Asian 8, African 171)	197
General Dispensary	
Railway Dispensary	87
Prison Hospital	
Police Depot Dispensary	
Mombasa.—	
European Hospital	11
Native Civil Hospital (Asian 38)	218
Infectious Diseases Hospital (European 2, Asian 8, African 130)	140
Prison Hospital	14
Child Welfare Centres	

	Beds
Kisumu.—	
European Hospital	10
Native Civil Hospital (Asian 13)	179
Prison Hospital	9
Nakuru.—	
Native Civil Hospital (Asian 6)	245
Eldoret.—	
Native Civil Hospital (Asian 5)	57
Railway Dispensary	
Kitale.—	
Native Civil Hospital (Asian 4)	55
Prison Hospital	8
In the Native Areas.—	
Thirty-four Hospitals with a total of 134 Out-dispensaries	1,960

Summary of Hospital Accommodation

	Beds
For Europeans	101
For Asians	163
For Africans	3,944

STAFF CHANGES DURING THE YEAR

The following are the principal appointments, promotions and changes made during the year:—

Dr. N. M. MacLennan, M.B., B.Ch., D.P.H., M.D., D.T.M.&H., assumed duty as Director of Medical Services on the 1st December, 1945.

Dr. K. A. T. Martin was appointed Assistant Director of Medical Services as from the 1st January, 1945.

Mr. C. E. Teesdale, holder of the Nuffield Scholarship, in England since August, 1945.

Dr. C. B. Symes, Medical Entomologist, was seconded to the Colonial Office throughout the year.

Resignations.—Nursing Sisters, 6; Health Inspectors, 1; Laboratory Assistants, 2.

Retirements.—Acting Director of Medical Services, 1; Medical Officers, 3; Health Inspectors, 2; Nursing Sisters, 2; Sub-assistant Surgeon, 1.

Transfers.—Medical Officers, 1; Nursing Sisters, 6; Health Inspector, 1.

LEGISLATION

The Public Health (Manufacture and Preparation, Packing and Re-packing of Food) Rules were brought into force on the 1st January, 1945. Two amendments were made to the Rules during the year.

Amendments to the Public Health Ordinance, 1921, were enacted. These were of a minor nature, dealing with definition, correction of deficiencies, and administrative improvement.

The Medical Practitioners and Dentists Ordinance was amended on the question of licensing, including that of African Assistant Medical Officers, and to provide for free registration of Medical Officers in the public service in East Africa or in the Forces.

FINANCIAL

The total of the sanctioned estimates for the Medical Department for the year 1945 was £385,898, an increase of £34,306 on the previous year, and the actual expenditure during the year amounted to £388,399.

The comparative table of the sanctioned estimated expenditure of the Medical Department for the past three years is as follows: —

YEAR	Sanctioned Estimated	Sanctioned Extraordinary Estimates	Total Sanctioned	Actual Recurrent Expenditure	Actual Extraordinary Expenditure
	£	£	£	£	£
1943	280,829	48,826	329,655	254,597	52,527
1944	319,687	31,905	351,592	329,602	15,165
1945	362,693	23,205	385,898	361,417	26,982

The revenue collected amounted to £57,675 as against £60,854 in 1944.

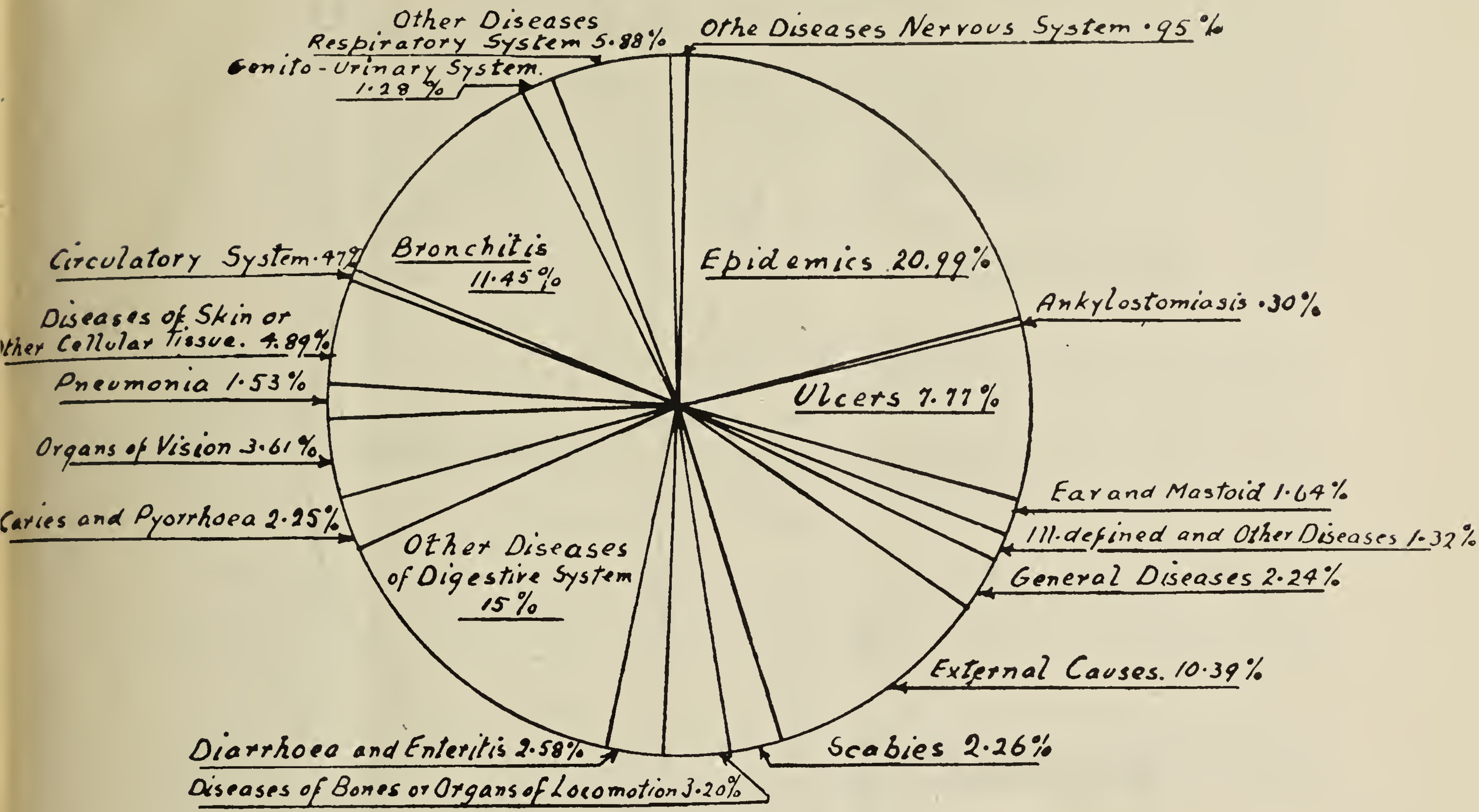
Of the total sum in the Colony's Expenditure Estimates in 1945 of £7,257,894, £385,898 represented expenditure on the Government Medical Department, a ratio of 1 to 18.81 or 5.31 per cent.

In addition to this, considerable expenditure was incurred by Local Authorities in respect of public health measures, grants in respect of these being in some cases made by Government.

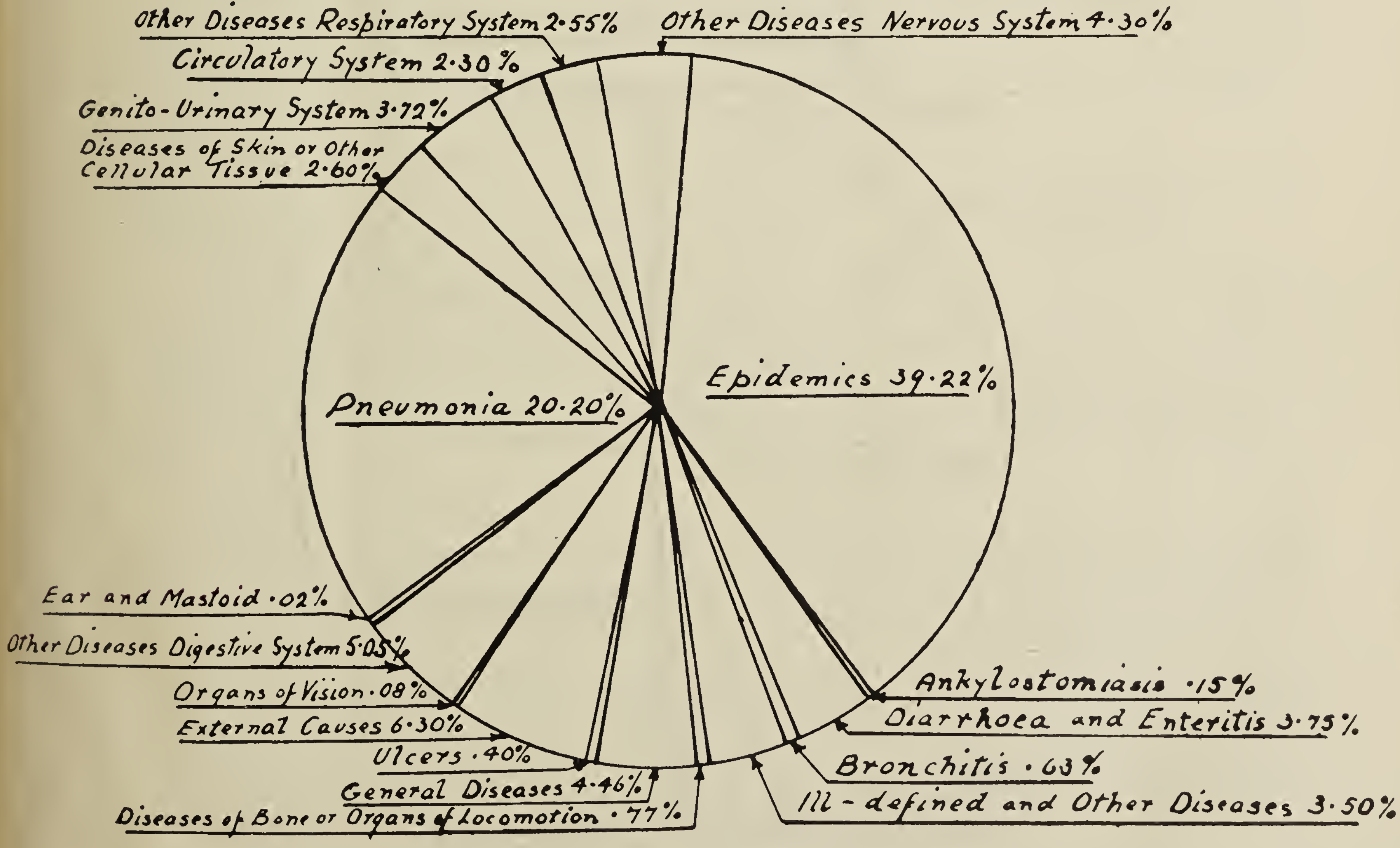
Detailed returns of the revenue and expenditure are given in Table II at the end of the Report.

Proportion of Epidemic, Endemic, Infectious, Systemic and other Diseases shown as Percentages of Total Cases treated at Hospitals and Dispensaries

TOTAL INCIDENCE 811,015.

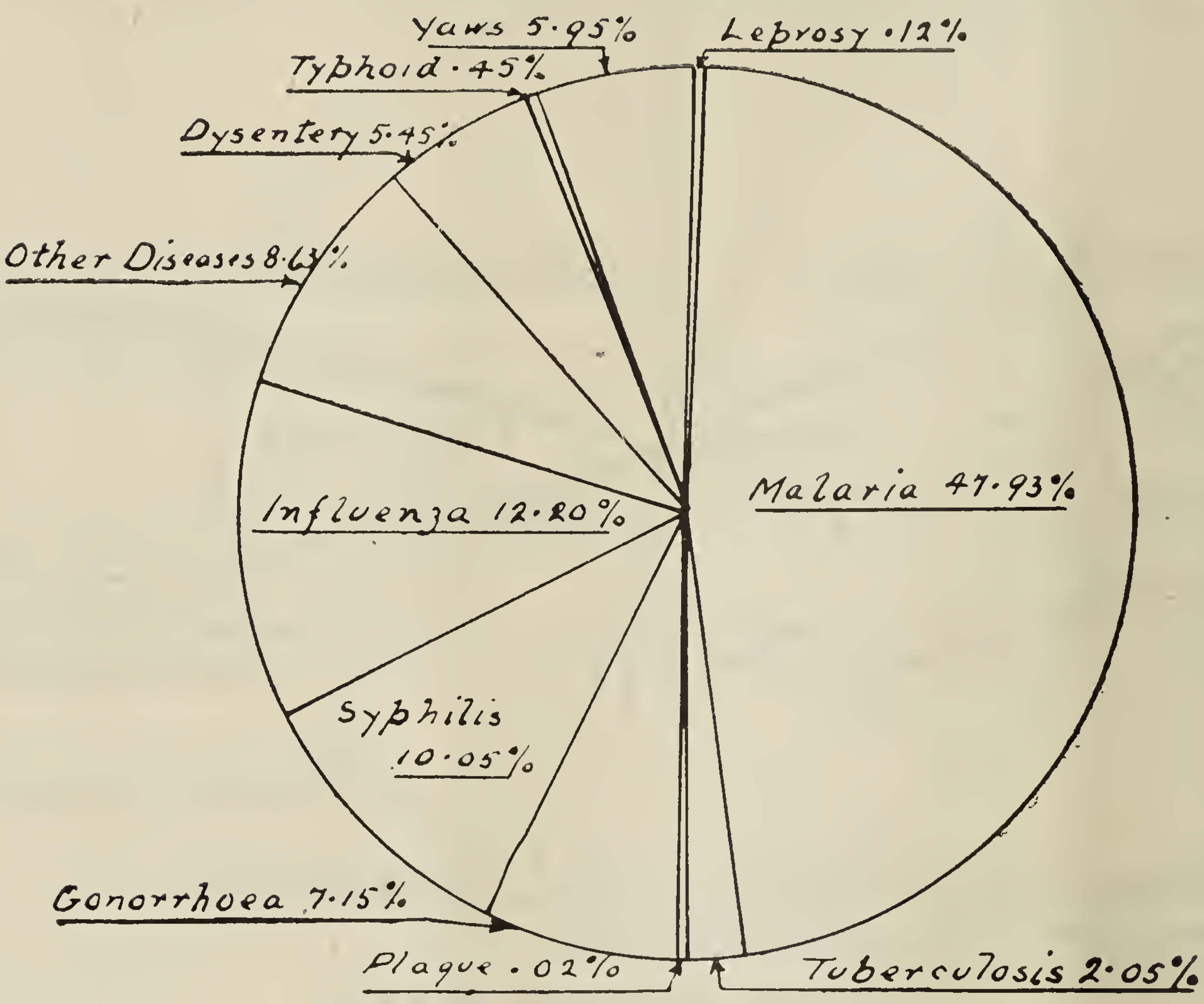


TOTAL DEATHS 4924.

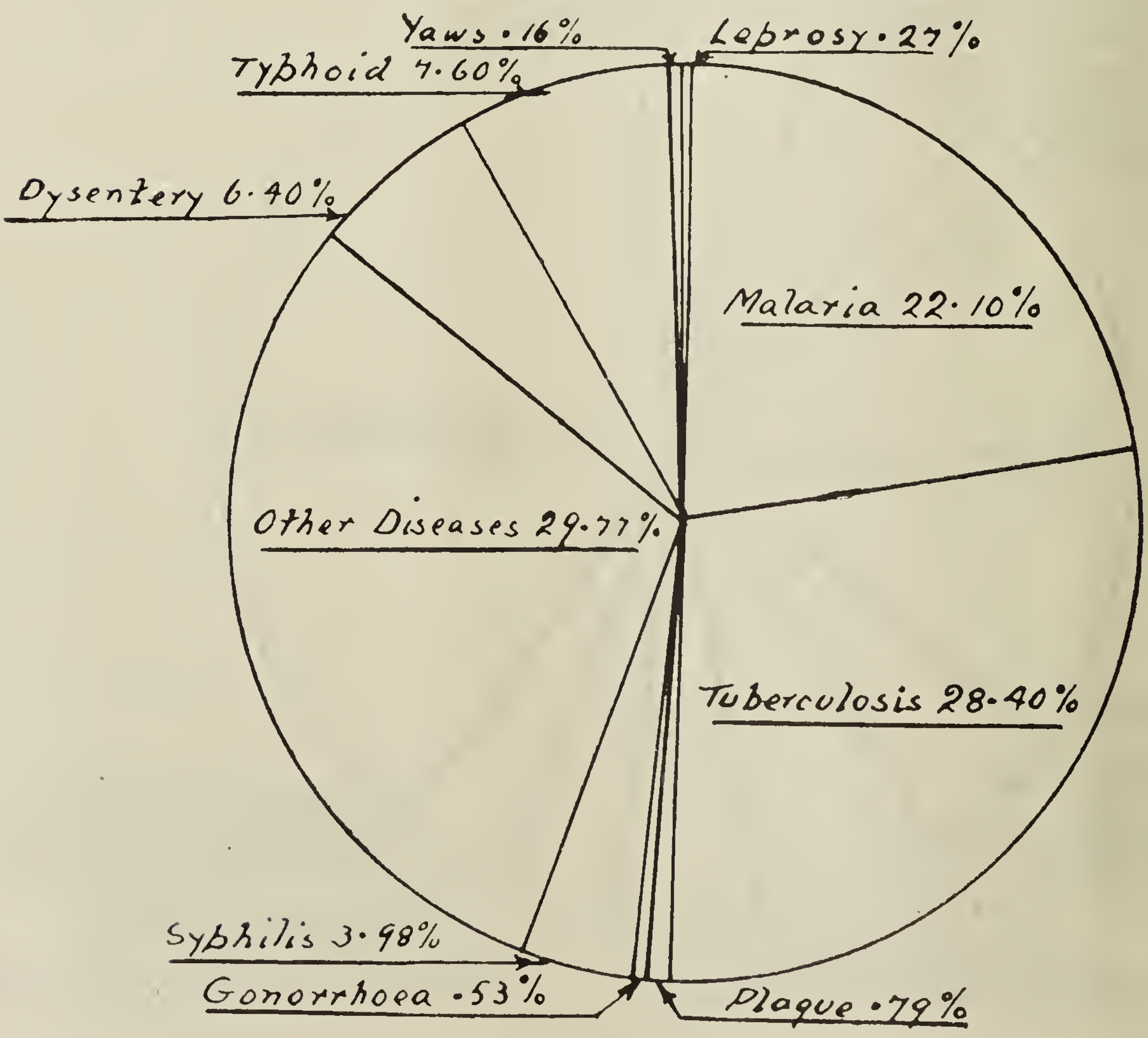


Proportion in percentages of Epidemic, Endemic and Infectious Diseases, In-patients and Out-patients, treated at Hospitals and Dispensaries

TOTAL INCIDENCE 170 243



TOTAL DEATHS 1884



II.—PUBLIC HEALTH

GENERAL REMARKS

For a long time attention has been drawn to the fact that no general system applicable to the whole Colony for the registration of births and for the collection, registration and analysis of statistical information is in existence, and that, therefore, accurate deductions based on such information as to the improvement or retrogression of the public health are not possible. However, from the assessment that can be made from reports available, it would appear that there has been no deterioration in the public health during the war years. Indeed, these years emerge in retrospect as a period during which there was considerable accomplishment. For this the Military influence was partly responsible, bringing about in the great numbers of Africans in the Forces an astonishing improvement in physique and a remarkable change in outlook.

In addition, the Military contribution to preventive work, especially in general hygiene and malaria control, was by no means inconsiderable. Further noticeable contributions to the preservation of the public health have been made in the work of Local Authorities who, in the face of difficulty, have not only maintained but increased health services during a critical time. Again, the foundation was laid for many important improvements to be carried out when the opportunity offers. Considering the circumstances, the state of the public health in the important urban local government areas was good.

Local Native Councils have continued to play an increasing part in the furtherance of public health activities in their districts and their material contributions are of no little importance in the general scheme, particularly as regards maternity and child welfare facilities and assistance with health work and preventive measures.

The high record of treatment given at hospitals must not necessarily be taken as connoting increased invalidism. It is but an indication of the general desire to take advantage of facilities provided; a desire which, in view of the limited facilities available, is creating a difficult situation.

Despite detracting factors, continuous prosperity and employment tended to create a medium whereby the health of the population was kept at a reasonable level. Rationing ensured a fair distribution of foodstuffs and worked well. However, long periods of drought conditions, coupled with increased demands for supplies, led on more than one occasion to acute shortages of staples affecting chiefly the African population.

In the present state of knowledge it is difficult to describe the nutritional state of the African with accuracy, but especially in the extra-suburban areas it is unquestionably far from perfect and sub-nutritional standards are widespread.

Naturally enough, in the circumstances pertaining throughout the war, the question of nutrition received the closest attention, particularly in its relation to work and output. The striking improvement brought about in the physical condition of Askari, by the diet supplied, was an object lesson in what can be obtained, and it has to be said that the African is increasingly turning to the consumption of an adequate dietary. Nevertheless, it must be said that in general the nutritional state of the African is capable of much improvement.

This matter is again discussed later in the Report. From the point of view of the public health, however, a nutritional survey of the population is of urgent importance, and must be undertaken at the first opportunity as an integral part of the activities of an organization which, it is suggested, should be set up to deal with all aspects of the question.

Deterioration of the position as regards diseases of medico-social importance, venereal disease and tuberculosis, must be recorded. As an accompaniment to war-time conditions the spread of the former was to be expected and has unfortunately occurred. It is as well to recognize the position frankly and to realize that the process has been accelerated by a laxity of morals, the spread of prostitution and some breakdown in tribal authority, with the disorganization also that accompanied war-time conditions.

A joint Venereal Diseases Committee of military and civilian members rendered useful work, especially as regards welfare and propaganda, and this has now been taken over by another Committee with wide representation. Venereal Diseases Regulations were introduced, but have now been repealed.

It is to be admitted that the Department came under criticism regarding the spread of these diseases, not only in respect of treatment facilities but also for alleged inaction in exerting authority to suppress spread. If admitting some justice in these criticisms, the first resolved itself into finding adequate staff from the already hard-pressed members of the Department, which was impossible to do. As regards the second, the operation of any law designed to deal with the suppression of spread of infection is beset with difficulty. The question rather resolved itself into bringing to bear every social and educative influence upon the problem that is possible. The social side of the matter alone is of the highest importance and must be regarded as such. While, therefore, large-scale plans have already been made for a wide extension of treatment with new specifics to combat the expected post-war rise, it is hoped that the efforts of the new Committee, representative of strong social and spiritual interests, will greatly assist from that point of view. The medical side of the problem is, of course, important. Such efforts, however, will need the strongest administrative and other backing if success in a crusade against venereal disease is to be attained.

Tuberculosis is another disease the spread of which is giving rise to anxiety. The facilities generally for treatment and particularly specialist treatment, are poor, though the results obtained elsewhere have demonstrated what can be done. Clearly, a marked expansion of curative and preventive services, carefully adjusted to the needs of the population, is required and must receive careful consideration at the earliest possible moment.

If the incidence of major infectious disease is taken as a criterion of the state of the public health, the position has of late been not unsatisfactory.

Since the large outbreak in the Nairobi area in 1940, plague has occurred only in small sporadic outbursts.

The 1943–1944 epidemic of smallpox which appeared to be part of a pan-African occurrence, smouldered throughout the year and exhibited a varying virulence, but was much less in degree.

The epidemic of relapsing fever, described elsewhere, was an unfortunate importation, but was rapidly and successfully dealt with, being the first time that D.D.T. was used in the Colony on a large scale for human disinfestation. The beneficial influence that such insecticides may have on the public health is as yet inestimable, but will undoubtedly be marked.

Penicillin, now being extensively used, will, in addition to its ordinary curative uses, be of tremendous benefit to the public health in view of its highly specific action in the treatment of venereal disease.

Reviewing the situation in retrospect, an opportunity has unavoidably been lost in putting into operation measures designed towards the prevention of disease. Shortage of staff and its intense preoccupation with curative work has inevitably precluded this. A Health Inspectorate staff, depleted by casualties and secondments, has done extremely good work in hygiene, but the great medical preventive problems are largely untouched and cry out for attention. In no sphere is there greater scope or a larger field of interest, or one in which greater dividends are likely to be paid.

General Diseases

The total number of cases treated during the year at Government hospitals and dispensaries, but not including out-dispensaries, was 811,015. Of this number, 683,068 were out-patients.

The total number of cases of all races treated as in-patients at Government hospitals was 127,947. Among these there occurred 4,924 deaths, giving a hospital death rate of 3.84 per cent. No deaths were recorded from out-patients treated.

Deaths, all of which were recorded from among in-patients, within groups of diseases, were attributable in descending order of importance to:—

	Per cent of Total Deaths
Epidemic and infectious diseases	39.22
Diseases of the respiratory system	22.38
Diseases of the digestive system	8.8
External causes	6.3
General diseases	4.46

As in previous years, pneumonia was the highest single cause of death.

EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES

The total in this group of 170,243 was made up of 119,345 out-patients and 50,898 in-patients; among the latter 1,884 deaths being recorded.

Malaria was outstanding with a combined total of 81,505 cases, 18,754 being in-patients, and 418 deaths; being 22.1 per cent of the deaths within the group, two deaths occurring in Europeans.

There were 3,500 cases of tuberculosis, 2,427 being treated as in-patients. Deaths from tuberculosis, numbering 533, were 28.4 per cent of all deaths within the group; and from dysentery 6.4 per cent of group deaths, or 2.48 per cent of total deaths from all causes.

There were 781 cases in the enteric group, with 144 deaths, being 7.6 per cent of group deaths. Dysentery cases numbered 9,247, amœbic 4,268, bacillary 2,082, and undefined 2,897.

AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF SENSE

There were 50,147 cases in this group, and 212 deaths or 4.3 per cent of total deaths. In-patients numbered 4,821 and out-patients 45,326.

CIRCULATORY SYSTEM

One thousand and seventeen in-patients and 2,813 out-patients combined to make a total 3,830 cases in this group, there being 115 deaths or 2.3 per cent of the total deaths.

RESPIRATORY SYSTEM

The total of 141,541 cases in this group was made up of 125,106 out-patients and 16,435 in-patients. There were 1,102 deaths, of which 994 were due to pneumonia, this disease alone being responsible for 20.2 per cent of all deaths. The case mortality (hospital) for all cases was 9.34 per cent, for lobar pneumonia 7.65 per cent and for broncho-pneumonia 12.55 per cent. 2,236 cases of asthma were recorded.

DIGESTIVE SYSTEM

There were in this group 163,832 cases, or 20 per cent of the total; 152,177 being out-patients and 11,655 in-patients. Deaths numbering 430 were 8.8 per cent of the total deaths from all causes. Diarrhoea and enteritis accounted for 20,975 of the cases, with 3.75 per cent of all deaths. There were 18,175 cases of caries and pyorrhoea.

SKIN AND CELLULAR TISSUE

Of the diseases in this group there was a total of 121,127 cases, 108,787 being out-patients and 12,340 in-patients. This was 14.92 per cent of the total cases treated, ulcers alone representing 7.40 per cent.

GENERAL DISEASES

Of 18,191 cases in this group, 15,513 were treated as out-patients and 2,678 in-patients. There were 220 deaths. The prominent diseases in this group are rheumatism and anæmia of all types. 192 cases of malignant disease were recorded, 43 European, six Asian and the remainder African. Of the cases where the site of the disease was specified it was shown to attack in order of selection, the stomach and liver, the skin, the breast, the female reproductive organs, the peritoneum intestines and rectum, and the buccal cavity. Six European, two Asian and 81 African deaths were recorded from cancer. There was a total of 12,793 cases of rheumatism.

EXTERNAL CAUSES

In this group there was a total of 84,274 cases, 71,939 being out-patients and 12,335 in-patients. Deaths numbered 312 or 6.3 per cent of the total from all causes. There were 2,560 cases of fracture, not including crush injuries, etc., which may have produced fracture.

Communicable Diseases

MOSQUITO OR INSECT BORNE

Malaria.—

In 1945, 81,505 cases of malaria were treated in hospitals and dispensaries as against 77,840 in 1944.

The cases were classified as follows:—

Tertian	3,134
Quartan	812
Aestivo-autumnal	19,882
Clinical	56,858
Cachexia	844
Blackwater	35

It is probable that a large proportion of the cases of clinical malaria as reported were in reality due to other diseases.

Owing to deficient rainfall, no serious epidemics of malaria occurred during 1945. In the high country of Western Kenya, however, the disease maintained the hold which it has gradually been establishing during the last few years. This upward creep into the Highlands is creating a problem of considerable economic importance and one with which present methods of drug distribution and the like are quite incapable of dealing. Large scale experiments on control by D.D.T. impregnation of huts are, in the first instance, to be tried in 1946.

Thirty-five cases of blackwater fever, which is a lower figure than for any of the preceding five years, were recorded, with nine deaths.

Trypanosomiasis.—

One thousand, one hundred and sixty-eight cases of human trypanosomiasis were reported in 1944; in 1945 the figure was 753. The vast majority of these cases were treated at out-dispensaries and only 46 were treated in hospital or major dispensaries.

The figures for both years are open to suspicion and although an epidemic of *T. gambiense,* sleeping sickness, has undoubtedly been occurring in South Kavirondo, the incidence is probably not as high as these figures may appear to indicate. It is possible that the epidemic is more as a result of the population resorting more frequently to the *palpalis*-infected rivers during the food shortage of these years. In Central Kavirondo the disease was practically absent.

Plague.—

A total of 56 cases of plague, with 21 deaths, was notified from all sources. Thirty-two of these cases, with 15 deaths, were treated in Government hospitals. The great majority of cases occurred in the North and South Nyeri Districts and the Nairobi District area. There were three cases in the Nakuru District, but the Nairobi and Mombasa Municipal areas remained free.

Typhus.—

Forty-seven cases of non-epidemic typhus were reported from all sources, with three deaths. In Government hospitals 33 cases, being eleven European and 22 African, were treated, with two African deaths.

Relapsing Fever.—

The important epidemiological event of the year was the occurrence of a large and widespread outbreak of relapsing fever in the coastal area surrounding Mombasa. The disease had originally been introduced by passengers on dhows from Arabia and, despite stringent precautions taken at the port, it infiltrated the hinterland and flared into epidemic proportions during the latter half of the year.

Investigations suggested that the disease was louse-borne, and laboratory research confirmed this later.

Once established, the disease quickly spread, facilitated by the habits and type of clothing of the people. Emergency arrangements were made to deal with the outbreak and a team of Medical Officers, Laboratory workers and Health Inspectors was dispatched to the spot. The Church Missionary Society rendered valuable help by the use of its hospital at Kaloleni, while a temporary hospital was opened at Mariakani.

Approximately 1,550 cases occurred during the epidemic and there was a mortality of 40 per cent in untreated cases. Of those cases, however, receiving treatment with Novarsenobillon, only 4 per cent died. General preventive measures were undertaken, but as soon as possible disinfestation of the population was carried out with 5 per cent D.D.T.

in kaolin. This proved highly successful and the epidemic was brought to an abrupt end, a few cases only tending to occur till the end of the year. The whole circumstance was an excellent example of co-operative team work, in which the value of the Insect-borne Diseases Division was demonstrated.

Detailed reports on the epidemic and investigational work undertaken in connexion with it have already been sent to the Secretary of State and for transmission to U.N.R.R.A.

Tick-borne relapsing fever has maintained its enhanced incidence largely as a result of the infested camps in the country. Little success against *O. moubata* has been achieved with D.D.T., but the results of preliminary work with Gammexane are distinctly promising.

Onchocerciasis.—

The prevalence of this disease in certain areas is a matter of concern, not only on account of its disabling nature, but also its economic importance. Its occurrence has led to the abandonment of some areas, or their withholding from settlement. Happily it is believed that a measure of eradication has been found, which will be discussed in the section on hygiene and sanitation.

Infectious Diseases

Smallpox.—

The large outbreak of smallpox of the years 1943 and 1944 continued throughout the year on a much smaller scale, 764 cases with 122 deaths being notified from all sources. The numbers of cases for 1943 and 1944 were 3,551 and 3,372. For the greater part of the year the disease showed itself in the mild form. Towards the end of the year, however, there occurred an explosive outbreak of severe confluent smallpox in Kisumu with a later spread into the surrounding native lands. The mortality rate in this confirmed outbreak was approximately 31 per cent, as compared to the overall mortality rate for the Colony of 16 per cent. Owing to the suddenness and the extent of the outbreak, extra isolation accommodation was improvised and the Church Missionary Society's hospital at Maseno was taken over wholly for the reception of cases. Smaller outbreaks occurred in other areas, but were usually restricted, and at the end of the year there was a distinct tendency to a decline in incidence. Cases treated as in-patients in purely Government hospitals numbered 508, with 16 deaths, but the great majority of these were of the mild variety.

Treatment was on usual lines, but while the use of penicillin in a few cases gave inconclusive results, it was believed to be a useful adjuvant at the pustular stage.

Pneumonia.—

A total of 12,405 cases of all types of pneumonia was treated at Government hospitals and dispensaries. Of these, 1,752 were out-patients and 10,653 were treated in hospital. Nine hundred and ninety-four deaths occurred among the latter, giving an overall hospital case-mortality of 9.34 per cent. Six thousand, five hundred and nine were cases of lobar pneumonia, with 407 deaths, or a hospital mortality rate of 6.25 per cent; and 3,588 were broncho-pneumonia with 521 deaths or a mortality rate of 14.5 per cent. As in pre-war years, the pneumonias constituted the most deadly disease seen in hospitals, though the lowered death rate is gratifying. Treatment with sulphonamides has in many cases proved less satisfactory than formerly, though several factors are concerned in this. It is hoped that when penicillin becomes more freely available the death rate may further decrease.

There can be little hope of the incidence of the disease decreasing until the nutritional state of the African and his general standard of living improves.

Venereal Diseases.—

The number of cases of syphilis treated during the year was 17,105, an increase of 3,998 on the figure for 1944. In the case of gonorrhoea the figures are 12,207 and 8,032. For the previous three years the figure for these diseases had remained fairly constant, but a rapid increase is clearly now occurring. This is an unfortunate conclusion not necessarily confined to this Colony, but with the impact of war-time conditions and a lowering of moral standards it is to be expected.

The Venereal Diseases Defence Regulations have now been repealed and in any case had not to much extent affected the position. Shortage of staff had precluded any extensive measures being adopted, but in addition to the existing facilities, three new clinics for the treatment of women were opened in different parts of the country during the war, one under military ægis, and remain in operation.

The position is fully appreciated and plans have already been made for a widespread extension of treatment, including the use of penicillin on a large scale in 1946, when it is expected that the staff position will permit of this being done.

Tuberculosis.—

The number of cases treated at Government hospitals and dispensaries during the year as in-patients and out-patients was 3,500; 2,427 were in-patients, and there were among these 538 deaths. Each year shows a steady rise in the number of cases, and opinion is unanimous that the cases seen are by no means a true indication of the extent or seriousness of the disease among the African population. In fact, tuberculosis is one of the most serious problems affecting the welfare of the African.

There is no question but that considerable extension of facilities for treatment is necessary and urgently required, but the problem is one that must be carefully approached. Sanatorium provision is unquestionably necessary and is, it is hoped, to be allowed for in the future. Tuberculosis, however, along with other conditions, is a problem of public health importance. It is necessary, therefore, that, with increased treatment and sanatorium facilities, there must be provided health staff to permit of investigation and the adoption of preventive measures so far as possible among the people themselves.

The provision of purely sanatorium treatment, perhaps at some distance from the patients' homes and families, will fail unless this can be linked up with necessary adjuvants. While the care of actual cases, therefore, must be undertaken in greater degree, so must a health organization also be developed concomitantly for the institution of general preventive measures.

Enteric.—

Seven hundred and eighty-one cases were treated in Government hospitals, as against 897 for 1944. There were 144 deaths: one European, one Asian and 142 African. Six hundred and eighty-five were shown as typhoid fever and 28 as paratyphoid A.

Preventive inoculation with vaccine manufactured at the Medical Research Laboratory is advised and wide use of this has recently been made in the reserves.

Dysentery.—

The classification of cases treated is as follows:—

	1943	1944	1945
Amœbic	3,654	5,067	4,268
Bacillary	1,002	2,156	2,082
Undefined	3,345	3,450	2,897

A total of 4,268 cases of amœbic dysentery out of a combined total of 9,247 cases treated seems an unduly large proportion, especially when the cases of bacillary dysentery are only half of that figure. Accepting that stool examination was performed and amœbæ found, nevertheless, conflicting reports are received from officers on this disease and it is undoubtedly true that the organism is often saprophytic in the intestines. It would appear that the time has arrived for investigation into this disease and the strictest criteria be observed in its diagnosis. With the drought that has been in existence during the year and the consequent dust menace, it is surprising that a larger number of cases of bacillary dysentery did not occur.

Diphtheria.—

Forty-six cases with six deaths, one Asian and five African, were reported; 34 cases being treated in 1944. Thirteen occurred in the Municipality of Nairobi and nine in Mombasa.

Protective immunization is now available and of late years has been increasingly practised.

Cerebro-Spinal Fever.—

This disease occurred in sporadic outbursts in several areas, there being 608 cases compared with 889 in 1944. Deaths numbered 193. Little is known about the epidemiology of this condition. It appears, however, to be spread by carriers and occurs mainly in the dry season. Treatment is somewhat disappointing, but as in the case of other diseases the results are affected by late arrival in hospital.

Anthrax.—

Seven hundred and eighty-three cases were treated at Government centres during the year, deaths from this cause being 51.

Undulant Fever.—

Notification of 25 cases treated in Government hospitals was received. There was one death.

Leprosy.—

Leper patients are maintained in the two Government camps at Kakamega and Msambweni. The former settlement housed 124 male adults, 62 female adults and sixteen children, and throughout the year there were 107 admissions and five deaths. The latter averaged 45 patients per month and there were seven deaths during the year.

While treatment and such care as is possible is given to the patients, the whole question of the care and housing of leper patients and the segregation of children is most unsatisfactory. The appointment of a Specialist Leprologist for the East African territories is a welcome beginning, but unquestionably the problem must now be dealt with in a much more humane and vigorous fashion. It is not entirely a medical problem and preliminary discussions indicate that the Missions may interest themselves in the matter, if financial assistance is forthcoming.

Helminthic Diseases.—

The comparative table of cases treated over the last three years is as follows:—

	1943	1944	1945
Ankylostomiasis	2,616 ...	1,815 ...	2,517
Ascariasis	15,062 ...	12,741 ...	13,166
Tæniasis	27,337 ...	22,303 ...	27,880
Schistosomiasis	1,650 ...	2,005 ...	2,577

A temporary shortage of the recognized anti-helminthics occurred during the war. It was of interest, therefore, that there came into use a traditional native form of treatment by the berries of the tree *Myrsine africana L.* This was found to be effective in the treatment of Tæniasis and no untoward results have been recorded.

Helminthic infestation is undoubtedly common among the African population and a contributory cause of uneconomic performance, besides being a menace to health; though there is reason to believe that there is a drop in the weight of the individual worm load. Considerably more attention must be paid to the question of treatment of helminthiasis in the general population, which has its place among proposed health measures of importance.

III.—HYGIENE AND SANITATION

A.—GENERAL REVIEW OF WORK DONE AND PROGRESS MADE

(1) Preventive Measures

MOSQUITO AND INSECT-BORNE DISEASES

Malaria.—

During the war, anti-malarial work carried out by the Medical Department and Local Authorities was considerably reinforced by that performed by the military organization, which continued, but on a reduced scale, during 1945. The work done by the military anti-malarial section was of high calibre and contributed a great deal that was of practical and investigational value. With its withdrawal the work will be taken over by the Division of Insect-borne Diseases.

Of the importance of malaria in relation to the general economy there can be no doubt, and the spread of malaria which has been taking place in the last few years into the Highland areas is now extremely disturbing. The area largely concerned is the mountainous country surrounding the Kano plains of the Nyanza Province and includes both native area and settled area. Of late the position has deteriorated and has caused much sickness among labour on tea estates and subjected the areas to increasingly severe epidemics as year follows year. The resultant economic loss is heavy.

In the face of these conditions, the institution of control measures is vitally necessary. Fortunately, unlike the control of malaria in localities more naturally subjected to the disease, control in these uplands is likely to have a fairly definite and more early chance of success. After consideration, therefore, it was decided that a proposal should be put forward for experimental control of the vector by D.D.T. house impregnation on a wide scale. Should this prove successful in a limited area, the way might then be open to complete vector abolition.

In this respect, a considerable amount of research on the use of D.D.T. and allied insecticides has been carried out both by the military and civil organizations, and much information obtained which will be extremely useful when the supply position permits of freer use.

Air-spraying with D.D.T. of swamps near Kisumu was carried out early in the year. This was followed by a dramatic reduction in the number of mosquitoes and the effects persisted until the end of the year. The effectiveness and applicability of this method of mosquito control is too large a subject for discussion in this Report, but it may be said that in certain circumstances, and with due precaution, air-spraying has a useful part to play in mosquito control. It further offers an alternative to large and costly drainage works, and at the same time provides a substitute for other temporary control measures.

Routine malarial control was continued throughout the year in all the municipalities and larger townships. Owing to dry weather conditions the incidence of malaria generally was low.

Special mosquito surveys were made in Nandi, Thomson's Falls, Rumuruti, Kitale, Meru District and Fort Hall. With the exception of Thomson's Falls, vector species of anophelines were found in fair numbers in the areas surveyed. The findings of these and other surveys raise the question of control measures required. Except in the case of the larger authorities, no organization exists for this purpose. An appointment that seems desirable is that of an anti-malarial engineer to advise and assist in such matters throughout the country. Furthermore, since it is clear that many districts are not capable financially of putting engineering control methods into force, some method of assistance is necessary and should be considered under general development schemes.

Yellow Fever.—

The discovery of yellow fever immune bodies in the sera of bush babies from the coast (Gede) and monkeys from Langata forest clearly indicates the importance of continuing anti-amaryl measures in Kenya. Full details of these findings have already been submitted to the Secretary of State for the information of the Inter-Departmental Committee of Yellow Fever and also as a contributory reason for not excluding Mombasa from the endemic area.

Surveys of sylvan mosquitos in the areas mentioned are being undertaken in an attempt to discover the probable vector. Details of *Aedes* control will be found in the relevant section of the Report of the Insect-borne Diseases Division.

No human case of yellow fever occurred during the year. Preventive inoculation with anti-yellow fever vaccine supplied by the Rockefeller Institute in Uganda was available throughout the year at certain centres. It was announced that this source of supply, for which grateful thanks are offered, would cease at the end of the year, and arrangements were concluded for purchase from another source.

Trypanosomiasis.—

Maintenance of blocks and hand-catching of tsetse flies has been continued in Central and South Kavirondo where periodical examination of population for signs of the disease is also carried out. It is noteworthy that the epidemic of *gambiense* disease in South Kavirondo has to a great extent by-passed the areas where tsetse control is established.

The experimental side of the work was handed over to the Tsetse Research Department, Tanganyika, together with the one remaining member of the Medical Department engaged on it. The former Department now has two workers seconded full-time to the Nyanza Province and the methods of control devised by Symes are being standardized and confirmed, so far with very satisfactory results.

Proposals for the continuance and extension of control work under a Tsetse Committee and extension of treatment facilities by the Department were under examination, and there is every reason to believe that they will be implemented in 1946.

Onchocerciasis.—

Control of *Simulium* consisted only of clearing methods being employed, adjacent to settlements, to prevent infiltration of the fly. A preliminary experiment, however, was undertaken to ascertain the possibility of eliminating this disease by application of D.D.T. to *Simulium* infested streams. A river in Kikuyu was selected for the purpose. The results are so promising that a wide-scale trial will be attempted in Nyanza (the only Province where the disease is known to exist) in 1946. There is every hope that by this means a method of elimination of this disease will be found.

Plague.—

Preventive measures directed against plague are those of gradual improvement in hygiene and *ad hoc* measures adopted in the face of an outbreak to prevent spread.

For a considerable time, despite the shortage of inspectors and especially of trained African staff, progress has been made in environmental hygiene. A gradual improvement in housing conditions is being effected, despite the lack of building material. Equally important, however, is the propaganda undertaken towards the maintenance of villages in a clean and hygienic state. This work is beginning to be organized at a better level and is generally supported by Local Native Councils.

Continuous rat destruction is carried out and rat-proofing of houses and grain stores is maintained. Many of these measures are integrally a part of the general effort at improvement and are not, except for rodent destruction, specifically directed towards the prevention of plague.

During outbreaks, which are generally circumscribed, further measures, which may at times have to be drastic, are adopted. These consist in the mass inoculation of the inhabitants of the surrounding area with plague vaccine. The degree of immunity conferred is not considered high, but the general opinion is that such inoculation has a useful place. Dethatching of houses or their destruction, if considered necessary, is also carried out and anti-rodent measures intensified in the particular area.

In general, widespread and successful measures against plague are, in existing circumstances, difficult, and the aim should be to minimize the possibility of infection by a gradual system of general improvement in living conditions.

Smallpox and Vaccination.—

For the past three years intensive and widespread vaccination has been performed throughout the whole Colony. It is, of course, inevitable that many individuals escape and that technique cannot be guaranteed in all instances. It is, therefore, not surprising that the infection should continue to smoulder, but unquestionably epidemic spread has been prevented.

It is more important that vaccination and re-vaccination of the population on a proper and not an emergency basis should be carired out. This is a matter which will receive attention in the general reorganization of health services proposed.

Dysentery and Enteric Fever.—

For prevention of these diseases reliance is placed upon general sanitary measures and the control of water supplies and foodstuffs. While slow improvement is taking place, much yet remains to be done, especially in the protection and handling of foodstuffs.

Preventive inoculation against typhoid is offered free as a public health measure and constant attention is drawn to its value.

But again, the control of these conditions rests largely in the education of the mass towards more hygienic living conditions.

(2) General Measures of Sanitation

It was inevitable that war-time conditions had the effect of holding up in the larger municipalities and townships measures of general sanitation which would otherwise have been introduced. In addition, questions of provision of water supplies, accentuated again by continuous dry conditions, and sewerage were rendered more acute by the increase in resident population. Important schemes, therefore, which were being considered in such a town as Nairobi have had to wait for implementation owing to unavailability of material and to man power shortage.

With the cessation of hostilities, interest, stimulated by necessity, was renewed and introduction of important schemes can be expected as part of the post-war plans for development.

Shortage of water supplies was not uncommon generally, but was acute in Nairobi and led to the examination of new sources of supply, not only for immediate, but for future requirements. On the provision of added and adequate supplies depends in turn the extension of sewerage facilities.

Similarly, shortage of staff, plant and material led to difficulties with the system of cleansing and refuse removal, which have been surmounted by various measures. If such systems are not ideal, it can still be said that the authorities concerned are very much alive to the question of improvement and their efforts during the war years were certainly creditable.

In the smaller townships, trading centres and native areas, which are the responsibility of Government, such improvement as was possible was brought about with the staff available.

It cannot be said that the sanitary condition of many of these smaller centres is creditable. There are, however, considerable difficulties, apart from staff, yet to be overcome, particularly those connected with tenure and other factors. The introduction of rules governing building and maintenance in such centres would be a first step towards necessary control.

In native areas co-operative work towards improvement is undertaken by the Administration, the Health Inspectorate and the Local Native Councils, the last having power and responsibility for the introduction and enforcement of by-laws governing sanitary measures.

The Inspectorate concentrates largely upon improvement of housing conditions, extension and protection of water supplies, and village cleansing and maintenance. In this they are assisted by African artisans employed by Local Native Councils and by health workers.

Over a period of years the African has responded remarkably well to the propaganda carried out by the European inspectors and the example set by them. There is little in the native areas affecting health that does not come under review and the success of their work can be best judged by the continuous and enormous demands made upon them for advice and assistance in housing and many other matters. Progress has again been hindered by the shortage of staff, but it is unquestionable that it will accelerate considerably when more staff is available and material is in free supply, since these factors alone, and not lack of enthusiasm on the part of the population, are mainly responsible for limitation.

The following figures demonstrate the work accomplished under the supervision of the Inspectorate staff only:—

Schedule of some of the Work Carried Out in Native Reserves During the Years 1940 *to* 1945 *Inclusive*

New Brick Houses	474
New Stone Houses	40
New Sun-dried Brick Houses	521
New Improved Wattle and Daub Houses	10,734
New Stone Shops	444
New Burnt Brick Shops	2
New Shops, other types	72
Number of Native Huts Dethatched	97,990
Number of Native Huts Demolished	12,085
Number of Villages Cleaned	17,703
Number of New Maize Stores	15,110
Number of Maize Stores Dethatched	59,382
Number of Maize Stores Demolished	3,926
Number of New Water Supplies	463
New Latrines	14,906
Vaccinations	1,410,925
Inoculations	559,552
Rats Killed	2,622,350

(3) School Hygiene

It is regrettable that as yet no school medical service exists. This, however, is one of the services which it is hoped will be introduced in future development schemes.

(4) Labour Conditions

A variety of agencies are concerned with the welfare of labour, but the strengthening of the Labour Department was of primary importance. Details of the health and conditions of labour will be found in the Report of that Department. Liaison between the Labour and Medical Departments continued, joint action being taken where conditions demanded, while minimum housing standards were agreed to.

Housing conditions for labour, however, still show not only shortage but poverty in type, and considerable improvement in respect of the latter is required. Nevertheless, it can be said that the majority of employers are well aware of this, and of its importance in regard to the contentment of labour, and an increasing number are providing well-built quarters. In addition, Local Authorities and Government are gradually abandoning the old type of temporary camp in favour of semi-permanent or permanently established camps.

Shortage of housing for labour in the larger towns remains acute and may produce undesirable effects if not alleviated. This is a matter to which increasing attention has been given and which has been the subject of much earnest thought. The solution, however, is by no means simple, though Local Authorities, by means of their housing schemes, have done much already to improve the position.

Considerable discussion has centred around the question of nutrition and its relation to output. This is a vexed and complicated subject in which the aversion of the African to rationed or communal feeding does not assist. Nevertheless, here again improvement can be recorded and the number of employers who recognize the value of good and adequate feeding for labour is increasing rapidly.

In general, the subject of the African labourer throughout the whole country has, of late, received considerable attention. It is recognized that the provision of welfare facilities and social amenities are of prime importance and proposals to establish social centres in various areas are in sight of accomplishment. It seems clear that the liberality of mind shown towards the African in this connexion, supported by the new Government organizations for welfare should bring about a marked change in this direction, and tend towards the establishment of more satisfactory conditions.

(5) Housing and Town Planning

As already indicated, in urban areas, especially in Nairobi, Mombasa and Nakuru, the Local Authorities have been faced, as elsewhere, with many difficulties, largely consequent upon war-time conditions. In the circumstances each has done extremely well.

The consideration given to social and health conditions has been gratifying and in no direction has this been more marked than in regard to housing. Remarkable progress has been made, despite great difficulty, as instanced by the large African housing schemes, complete with shops and full amenities, undertaken by the Nairobi Municipal Council. These and other schemes, however, have been sufficient only to dilute the conditions of overcrowding which prevail in nearly all centres and which are a marked cause of dissatisfaction. The problem still presented is one of considerable magnitude, and if not exclusive to this Colony is one, nevertheless, that requires early solution.

Owing to shortage of accommodation, hardship has been experienced by other races, European and Asian, and little alleviation is as yet noticeable. Rising costs and shortage of material have prohibited large-scale building and little improvement can be expected for some time.

The decision of the Nairobi Municipal Council, followed by Mombasa, to engage a town planning team from South Africa showed foresight. In each place there are crucial problems which the expert and experienced advice of the team should go far to solve. This interest in town planning is a welcome sign, for undoubtedly upon a wisely planned basis rests the proper and full social and economic development of these towns.

The appointment also of a Government Town Planner is a step forward since developmental problems in centres other than the above are just as important, while regional planning for all purposes, including industry, is highly desirable.

(6) Food in Relation to Health and Disease

Owing to shipping and other difficulties during the war, a number of local food industries were developed in various parts of the Colony. These were not confined to areas within municipalities or townships where a certain amount of legislation for their control is in operation; in fact, a number were situated outside the boundaries of any municipality or township where little or no legislation was in force. Some of these concerns were forced to outside areas on account of the difficulty in obtaining suitable plots, others went to escape control and in some such cases the premises, as well as the methods employed for the manufacture of food for human consumption, left much to be desired. In view of the difficulty experienced regarding the control of the erection of premises in connexion with such industries and for the control of methods of manufacture employed, the Department, with the assistance of a small committee, prepared draft rules which were submitted to all Municipalities, Municipal Boards and the Chambers of Commerce for their comment. The Rules, designated as the Public Health (Manufacture, Preparation, Packing and Re-packing of Food) Rules, 1944, were finally approved by Government and were gazetted under Government Notice No. 1029 dated the 12th September, 1944. They became law on the 1st January, 1945. With the introduction of these Rules it has been possible to effect very considerable improvement in the type of building erected and of the methods and standard of general cleanliness in premises where food is manufactured, prepared or packed.

MARKETS, DAIRIES AND SLAUGHTER HOUSES

The improvement of markets and slaughter houses is part of the general scheme of work undertaken by the sanitary staff in the native areas and is proceeding satisfactorily within the limitations imposed.

Elsewhere, slaughter houses are under the control of Local Authorities and meat is inspected before delivery for consumption. The general conditions and technique observed in one or two of these has provoked criticism, and no doubt the defects will be rectified. During the war, owing to increased consumption, considerable strain was placed upon the capacity of most slaughter houses, but, in general, their conduct was satisfactory considering the circumstances and pressure imposed.

Some improvement in respect of dairies has been effected, but the position is invalidated by the fact that the Milk and Dairy Regulations are not universally applicable. It is, therefore, at the moment more a matter of negotiation and persuasion to ensure reasonable compliance with the Regulations. But, unless improvement can be brought about by such methods at an early date, the Regulations must be fully applied, since inspections carried out reveal in too many cases a state of affairs that leaves much to be desired in the production of clean milk.

In Mombasa, by-laws require the registration of premises supplying milk to the town, and Kisumu Municipality has for some time operated a scheme whereby all milk is dealt with through a central depot.

For a long time the Nairobi Municipal Council has had under consideration a proposal to establish a central milk depot and to control the sale and distribution of all milk entering the town. No final conclusion has yet been reached.

There is as yet much to be done before satisfactory conditions of production and distribution are obtained. Possibly some co-operative method between large consuming and surrounding producing centres may provide a reasonable solution.

FOOD SUPPLIES

With the continuation of drought conditions in certain areas of the country, the Colony has had to face urgent problems in providing sufficient food for its population. The question of the quality of food of the population as a whole has not been lost sight of and has received consideration since the publication of the Report of the Committee on Nutrition in the Colonial Empire shortly before the war and the statement of the high ideals made known by the United Nations at their Conference on Food and Agriculture held in 1943 while the war was still in progress. In that year, too, the Food Shortage Commission of Inquiry appointed by the Government of Kenya called for a statement of policy by urging that “a concerted policy should be worked out by the Medical and Agricultural Departments within the framework of a general native policy setting out in broad outlines on the one hand the nutritional need, and on the other hand the agricultural policy designed to meet these needs”.

In 1944, therefore, a joint memorandum on the problem of nutritional deficiency among Africans in Kenya and its relation to future agricultural developments was compiled by the Agricultural and Medical Departments and considered and approved by the Native Welfare Committee. The integration of agricultural production and nutritional requirements, however, still awaits carrying out of some fundamentally important investigations considered in the memorandum and to which reference is made in the summary, where it is stated that—

> "Funds should be made available for the collection of data from certain specified areas of the country on the nutritional condition of the people and on the ability of the land to reach the target of production for optimum consumption".

At the present time the Government of Kenya has two problems in connexion with food supplies. The first is the immediate one of ensuring that foodstuffs are produced in those areas fortunate enough to have an adequate rainfall in amounts which will supply both the local inhabitants and those in the less fortunate and drought stricken parts. This problem is a short term one. The second, which requires a long term approach, is the more difficult one of providing for the whole population a diet adequate in amount and healthful in quality according to the highest nutritional standards. The Food and Agricultural Organization of the United Nations is the international instrument set up to assist Governments in solving their problems. The expansion in agricultural production which will be required must be examined and the industrial and trade developments which will accrue must be planned. By conducting such inquiries, Kenya would be making its contribution towards assisting the Food and Agricultural Organization in its solution at the international level of the problems of feeding the populations of the world and achieving for them freedom from want.

B.—MEASURES TAKEN TO SPREAD THE KNOWLEDGE OF HYGIENE AND SANITATION

There has been little opportunity for some time for the Department to conduct propaganda on health and hygiene. What has been achieved has been mainly by the efforts of the Inspectorate staff and, indeed, their practical example and personal contact is probably the most valuable method that can be employed. Much propaganda on specific subjects and welfare work was carried out by the Military Authority. With the prospect of return to normal conditions, it would appear that the subject of propaganda should be reorganized on a wider and more practical basis.

C.—TRAINING OF SANITARY PERSONNEL

While a number of African sanitary assistants and artisans are employed in reserves under the direction, mainly, of the Health Inspectors, this is totally inadequate for the work required in regard to propaganda, instruction and guidance for hygiene and sanitation. Nothing, it is considered, is more important for general progress than the proper training of sufficient numbers of African personnel to the work among their fellow men. The lack of such personnel to fill the gap between the population and a handful of European Inspectors is keenly felt and there is obviously much of which the African, and probably only the African, is capable of acomplishing.

The closing of the Training School in Uganda for African Health Inspectors to trainees from other territories has emphasized the state of affairs. If further progress is to be made, and made it must be, then it is imperative that a similar training school should be opened in this Colony. There is a tremendous scope and field of work open to trained African Inspectors, of which the present exiguous staff can only touch the fringe. In addition to the personal element which counts so much, it is obvious that economically such schemes of training are sound and proper.

The establishment of a school in Nairobi for the training of Africans in hygiene has a high priority in the programme of the Department. Meanwhile, it has been agreed that a number of ex-askari shall have a short intensive course of training to help to fill the gap until the fully trained products of the school are available.

D.—RECOMMENDATIONS FOR FUTURE WORK

Recommendations for future work, which inevitably depends on the numbers and type of personnel likely to be available, have been discussed to some extent in previous sections. No excuse, however, is needed in reiterating the necessity for the production of highly trained African staff of all types as an undoubted essential, if progress is to be made, most particularly as regards rural hygiene and sanitation and in general preventive measures.

Emphasis has already been laid upon the desirability of promoting general preventive measures to a much greater degree, granting at the same time the necessity for stabilizing curative facilities. In no field is there greater scope or promise.

The lines on which future work should be more directed are the complementary ones of training of Africans and the enhancement of preventive measures.

IV.—PORT HEALTH AND ADMINISTRATION

During the war there were very considerable developments in the port of Mombasa consequent upon it becoming a large naval base. Army and Air Force organizations also were accommodated. With the presence of these Authorities the port health work was often greatly complicated, but in general matters went smoothly and the work of the Department adequately carried out. By the end of 1945 the Services activities were slight and the return to peace-time conditions almost complete.

The number of vessels which entered Kilindini or Mombasa harbours during the year was as follows:—

Steamships overseas (tonnage 1,746,720)	444
Coastal (tonnage 25,288)	74
Empire Flying Boats	290
Sailing Ships, Foreign Dhows	371
Vessels Medically Inspected on Arrival.—	
Steamships	116
Sailing Ships	265
Vessels Arriving in Port Infected or Suspected.—	
Steamships	—
Sailing Ships	30
Vessels Placed Under Quarantine Restrictions or Subjected to Special Measures.—	
Sailing Ships	30
Passengers examined under special smallpox regulations	10,790
Passengers landed subject to surveillance	2,743
Bills of Health issued	953

PORT HEALTH STAFF

(*a*) Port Health Officer (who is also employed as Medical Officer of Health to the Municipality of Mombasa).
(*b*) Assistant Port Health Officer.
(*c*) Port Health Inspector.
(*d*) Entomological Field Officer.
(*e*) Clerk.
(*f*) African Orderlies.

INTELLIGENCE

The Epidemiological Bulletin received weekly from the Quarantine Administration, Alexandria, was extremely useful and was the most important source of information regarding the occurrence of major infectious diseases in the Middle East, East and South African ports. Comprehensive statements of deaths, etc., and infectious diseases in India were received from New Delhi, but as the information takes time to complete, it was too old to be of practical assistance. This is true also of the weekly bulletins from the Ministry of Health.

EXAMINATION OF SHIPS ON ARRIVAL

During the year there was no change in the principles observed in clearing vessels arriving at Kilindini. The list of infected ports in communication with Mombasa was so extensive that the majority of vessels entering the port had to be boarded by a Medical Officer.

With the discovery of louse-borne relapsing fever on board a dhow from Seehut, it was decided that any dhow which did not present adequate sanitary guarantees should not be admitted to pratique for fourteen days from the date of arrival, and that during this period daily temperatures of all persons on board should be recorded. Any persons who were suspect should be landed for investigation at the Infectious Diseases Hospital. These precautionary measures seem to have worked satisfactorily as no further outbreaks of infectious disease occurred in Mombasa during the remainder of the year.

INFECTIOUS DISEASES IN SHIPS AND DHOWS

No major infectious disease was recorded during 1945 in steamships arriving at Kilindini. One case of smallpox was isolated from a dhow in the month of February. In the same month, as already stated, there occurred a serious outbreak of louse-borne relapsing fever on board these vessels. This managed to gain a foothold on the mainland and was later the cause of a severe epidemic on the Coast Province. The outbreak can best be summarized as follows:—

Number of dhows quarantined	30
Number of dhows disinfested	21
Number of dhows found to be infected	13
Number of persons disinfested	1,789
Total number of cases from dhows	178
Total number of Mombasa Arab cases	25
Estimated mortality rate	4.5 per cent

SPECIAL PREVENTIVE MEASURES AGAINST THE INTRODUCTION OF INFECTIOUS DISEASES

(*a*) *Smallpox.*—Although this infestation was present in the Middle East, East and South Africa throughout the year, only one case was landed from a dhow and no untoward consequences resulted. Routine examination of all passengers was carried out and unsufficiently protected persons were re-vaccinated.

(*b*) *Plague and Cholera.*—No plague or cholera infected or suspected ships entered the port during the year. Special vigilance was exercised in the case of troops returning from endemic areas in the South East Asia Command, but no special measures were called for, as all troops had been inoculated against the diseases within six months of returning to East Africa.

SANITARY CONDITIONS OF THE PORT

As in previous years, this was good. Refuse collection and disposal was satisfactory and such minor defects as did occur were promptly and efficiently dealt with by the Port Authorities.

RAT DESTRUCTION

The trapping organization remained the same as in previous years. The total number of rats trapped was 4,697 and of these 148 were examined bacteriologically, but no *Pasturella Pestis* was found.

FUMIGATION OF SHIPS

The deratization of ships and the issue of International Certificates functioned smoothly. Twenty-three vessels were fumigated and deratization certificates issued. In addition, a further twenty vessels were examined and issued with exemption certificates.

MOSQUITO BREEDING

Regular search of the port area and small craft for mosquito breeding was carried out and appropriate measures taken when necessary.

All south bound flying boats were disinfested before departure from Mombasa.

INSPECTION OF IMPORTED FOOD

So far, it has been found impossible to arrange for routine inspection of foodstuffs at the port, but numerous articles were condemned after inspection by H.M. Customs or by importers.

TREATMENT OF VENEREAL DISEASES IN SEAMEN

In spite of the fact that the Port Health Inspector places on all ships on arrival a circular relating to the treatment facilities available, it cannot be claimed that these facilities were widely used. It is obvious that a more elaborate organization and more intensive propaganda is necessary.

Twelve Europeans, sixteen Asians and 108 Africans were treated at the Port Dispensary during the year.

AIR PORTS

All southbound flying boats, to the number of 142, were disinfested before departure from the base at Mombasa. In addition, nine flying boats, northbound, were disinfested. This measure was carried out by a specially trained staff under the Port Health Officer, and the method adopted was the Freon Aerosol Bomb.

Mombasa being the last port of departure from the endemic area on the East Coast route, all yellow fever inoculation certificates of passengers and crew were checked by the Port Health Inspector. Faulty certificates were very few, but the number of certificates of urgency produced was such that it could only be concluded that the spirit of the International Convention was not strictly being observed.

At land airports, the necessary measures of control and disinsectization were carried out by the Royal Air Force in a very satisfactory manner under detailed instructions.

Aedes control measures within airports, carried out by Service personnel, were supplemented by measures on the periphery of the ports done by Government or Municipal staff.

V.—MATERNITY AND CHILD WELFARE

In no branch of medicine in Kenya have such rapid strides been made as in maternity and child welfare work. In 1928 there was no provision for maternity cases in any outstation or small town. To-day maternity work is conducted at 29 Government centres. The degree to which the natives appreciate this amenity is shown in the figure of 5,042 normal labours conducted throughout the Colony, plus 149 cases at Nyahera Dispensary and 3,416 patients treated for other puerperal conditions at Government hospitals throughout the Colony.

The propaganda value of this work cannot be over-emphasized as it is one of the few approaches that the Medical Officer has to the native female population. The educational value of the work is equally great, but time must elapse before this aspect of it can fully be appreciated. It is sufficient to note here that a healthy start in life is all important in native welfare, and the only limiting factors in this work are hospital accommodation and trained staff to do the ante-natal work.

One very satisfactory aspect of the problem is shown in the concern of the Local Native Councils over the efficiency and the extension of the service. These Councils are not only continuously petitioning Government on these points, but are prepared to levy taxes on their peoples to provide funds for it. At the present time there are numerous centres for maternity and child welfare throughout the Colony, provided and maintained by the Councils.

The main agencies through which maternity and child welfare work is carried out are:—

The Government Medical Department.
The Local Native Councils.
The Lady Grigg Welfare League.
The Municipal Councils of Nairobi and Mombasa.

In regard to the first two, the position is that, with a few exceptions, the Local Native Councils have provided all, or part, of the capital for the building of maternity blocks at Government hospitals, and provide funds for maintenance. In addition, the Local Native Councils subsidize the cost of training at Nairobi or Mombasa of trainees from their districts. Thus, while the actual execution of the work is supervised and conducted by Government medical and nursing staff, the cost, willingly borne, falls on the Local Native Councils in their areas, and the system has worked indisputably well.

Maternity relief is included in the work done at their hospitals by Missionary Societies, who received from Government in 1945 grants amounting in all to £5,963.

The Lady Grigg African Maternity Hospital in Nairobi was taken over by the Nairobi Municipal Council in January, 1945, the original aims and objects of the hospital being maintained. A full-time lady Medical Officer was appointed, and the training of African midwives at this centre is being continued. The Council receives a reimbursement of 50 per cent of all expenditure incurred by it on the promotion of child welfare.

The Indian Maternity Home, Nairobi, and the African Maternity Centre in Mombasa, which are branches of the Lady Grigg Welfare League, received, respectively, £250 and £900 from Government funds; in addition to grants from the Municipal Council of Nairobi to the first, and from the Mombasa Municipal Board to the second.

(1) ANTE-NATAL AND CHILD WELFARE WORK CARRIED OUT IN LARGER TOWNS

(*a*) *By Government*

In Mombasa a staff of one lady Medical Officer, two Health Visitors and African staff was retained for this purpose, the Medical Officer acting as visiting Medical Officer to the

African Maternity Hospital, Mombasa, run under the auspices of the Lady Grigg Welfare League. Ante-natal and child welfare work in Mombasa was conducted at centres. The attendances and home visits paid by the staff were respectively 47,786 and 27,790, as compared with 56,073 and 30,790 in 1944.

(*b*) *By the Municipal Council of Nairobi*

Since 1935, this Authority has been responsible for ante-natal and child welfare work in Nairobi, and this is now conducted at seven centres. In addition, the Council took over the Lady Grigg African Maternity Hospital in 1945. A lady Medical Officer was assisted by a staff of European and Asian Health Visitors and, despite difficulties incidental to war-time conditions, this work continued to flourish. During 1945 the total of attendances at clinics was 56,880 and home visits paid by staff 21,282, as compared with 52,007 and 23,409 respectively in 1944. The staff maintained at the Council's Maternity Hospital for Africans at first comprised a Medical Superintendent, a Matron and two Nursing Sisters, but owing to difficulties the staff was increased by one Nursing Sister later in the year. Other difficulty was experienced owing to inadequacy of the buildings and quarters, but steps were being taken in respect of this. In addition to its ordinary purpose, the hospital is a training centre for African midwives. At present it is possible to house twenty trainees, but it is hoped to increase this number to 30 when additional accommodation is available.

In December, 1945, five candidates trained at this hospital took the final examination and were awarded certificates. They were posted to Government hospitals. In the past, trainees were mostly proposed by hospitals with Local Native Council assistance. It is of interest to note that in 1945 a number came from schools.

The following table shows the work performed at the hospital during the year:—

	Resident of Nairobi	Non-Resident	Total
Cases admitted during the year	974	817	1,791
Discharged during the year	..	..	1,777
Number of beds	..	..	27
Patients days	..	..	7,471
Average stay	..	..	3·21 days
Baby days	..	..	5,702
Motherless Baby days	..	..	399

(*c*) *By the Lady Grigg Welfare League*

Under Committees of Management two maternity hospitals are maintained by the League, the Indian Hospital in Nairobi and the African Hospital in Mombasa. Both are training centres for midwives, the first-named for Indian women. The four probationers in training all qualified and were replaced by four more. Arrangements are expected to be made to increase staff quarters and take more trainees. At the Mombasa hospital eight trainees qualified during the year.

Tables follow indicating the work done at each centre during the year and in previous years:—

LADY GRIGG INDIAN MATERNITY HOSPITAL, NAIROBI

Cases	1945	1944	1943	1942
Admissions	586	461	439	463
Births	518	397	395	433
Twins	3	4	—	2
Still births	17	15	15	29
Deaths—Maternal	6	2	1	2
Deaths—Infants	5	6	6	—

AFRICAN MATERNITY HOSPITAL, MOMBASA

Cases	1945	1944	1943	1942	1941
Patients admitted	688	554	604	459	415
Births	503	390	452	323	234
Still born infants	38	29	28	32	19
Deaths—Maternal	6	6	5	5	7
Deaths—Infants	14	14	10	10	10

(*d*) *By Mission Hospitals*

Figures are given later showing the work performed by Mission hospitals. Certain of these hospitals also conduct courses in training for midwives, and two of their candidates qualified in 1945.

(2) ANTE-NATAL, MATERNITY AND CHILD WELFARE WORK IN THE RURAL AREAS

Figures for the year for maternity work are as follows:—

At Government Hospitals, Including Those Centres Established with the Help of Local Native Council Funds

Station	*Cases*
Kabarnet	20
Kapsabet	79
Kiambu	703
Kerugoya	599
Kisumu	678
Kakamega	305
Embu	92
Narok	13
Kericho	84
Wesu	80
Voi	13
Kitui	32
Eldoret	225
Nakuru	525
Kilifi	14
Machakos	101
Fort Hall	98
Digo	7
Nyeri	484
Kajiado	1
Kitale	97
Kapenguria	7
Meru	109
Lamu	6
Muriranjas	141
Kisii	265
Nyahera Dispensary	149
Others	264
	5,042
Nyahera	149
Total ...	5,191

At the Lady Grigg Maternity Centres

Nairobi	1,791
Mombasa	688

At Mission Hospitals

Mission Hospitals	3,163

The comparative figures for the years 1944 and 1945 are as follows:—

	1944	1945
At centres established in connexion with Government Hospitals with the help of Local Native Council Funds and at Government Hospitals (1945 figures include 149 cases from Nyahera) ...	5,051	5,191
At the Lady Grigg Maternity Centres, Nairobi and Mombasa ...	1,732	2,479
At Mission Hospitals	3,033	3,163

Training of Midwives

Training of midwives is not done by Government but is undertaken mainly at the Nairobi Municipal Council's African Maternity Hospital, the Lady Grigg African Maternity Hospital, Mombasa, and, for Indians, at the Indian Maternity Hospital in Nairobi. Certain Mission hospitals in addition train a few candidates for the certificate granted by an Examining Board appointed by the Director of Medical Services.

The position in respect of training, so far as numbers is concerned, is somewhat unsatisfactory, and the demand for trained midwives is far greater than the supply. The main reason is the shortage of proper accommodation for further trainees, and under existing conditions it cannot be expected that greater numbers will come forward for training, especially as a large proportion of the trainees are sponsored by Missions and Local Native Councils, who would rightly wish to be satisfied as regards their welfare.

This difficulty is experienced in greater measure as regards trainees for general nursing. The two questions integrate, since it is the desire that training shall be given in general nursing as well as midwifery, and that, indeed, it may extend to social welfare and a health visitor's course. One further difficulty is that of obtaining material of better educational standard in African girls.

However, progress in all directions may now be anticipated. Under development schemes, the establishment of a new and extended Government Training School will have high priority and the training of African nurses will be included within its scope. Both the Nairobi Municipal Council and the Committee of Management of the Indian Maternity Hospital, Nairobi, propose large extensions to their institutions, which should greatly increase training facilities and permit of important accessions to the number of trainees.

These, together with other proposals now mooted, and the extension of general training by Government, should allow of marked improvement of training in a co-operative fashion. In this, as already mentioned, it is important that facilities for training in general nursing and social welfare be provided to supplement that given merely in midwifery at the moment.

A total of seventeen candidates passed the examination and were certificated during the year; four Indian and thirteen African.

VI.—HOSPITALS, DISPENSARIES, OUT-DISPENSARIES, VENEREAL CLINICS, THE MENTAL HOSPITAL, MEDICAL WORK CARRIED OUT BY MISSIONARY SOCIETIES, ETC.

The number of patients treated at hospitals and dispensaries during the year was as follows:—

European In-patients	European Out-patients	Asiatic and African In-patients	Asiatic and African Out-patients
3,328	8,236	124,619	674,832

In addition, 1,029,860 first attendances were recorded at out-dispensaries in the Native Reserves.

In and Out-patients Treated at Government Hospitals, Dispensaries and Out-dispensaries in 1945

Hospitals in Townships	*In-patients*	*Out-patients*
European Hospital, Nairobi	1,140	5,707
Native Hospital, Nairobi	13,308	—
Mathari Mental Hospital, Nairobi	257	—
Infectious Diseases Hospital, Nairobi	3,773	—
Prison Hospital, Nairobi	2,393	5,635
General Dispensary, Nairobi	3,332	66,929
Loco Dispensary, Nairobi	—	21,669
European Hospital, Mombasa	375	1,179
Native Hospital, Mombasa	6,099	40,656
Infectious Diseases Hospital, Mombasa	2,839	1,448
European Hospital, Kisumu	342	423
Native Hospital, Kisumu	8,613	26,621
Prison Hospital, Kisumu	585	1,160
Native Hospital, Nakuru	10,416	26,781
Native Hospital, Eldoret	3,557	13,754
Railway Dispensary, Eldoret	1,200	3,001
Natiye Hospital, Kitale	4,020	12,684
Total	62,249	227,467

Hospitals in Turkana and Northern Frontier Province and Lamu

Districts	In-patients	Out-patients	Out-Dispensaries
Lodwar	539	4,797	—
Lokitaung	252	2,322	—
Wajir	1,494	8,250	—
Moyale	804	12,186	—
Lamu	272	12,836	22,129
Total	3,361	40,391	22,129

Hospitals in Native Reserves

Districts	In-patients	Out-patients	Out-Dispensaries
Wesu	1,584	14,354	58,000
Voi	922	11,450	—
Kabarnet	444	3,785	10,354
Kitui	1,786	24,902	51,627
Kapenguria	308	5,724	3,810
Narok	2,093	6,337	12,561
Malindi	447	13,056	27,808
Kakamega	5,423	22,033	114,420
Kilifi	1,591	5,249	12,719
Kericho	3,796	7,867	24,511
Machakos	2,947	30,502	63,024
Muriranjas	2,005	12,207	—
Kisii	4,013	19,272	67,789
Nyeri	4,480	37,724	194,464
Fort Hall	5,696	16,133	80,920
Meru	2,297	39,502	97,896
Kiambu	4,503	19,787	18,577
Embu	1,852	14,154	—
Kajiado	1,370	4,575	—
Msambweni (Digo)	890	4,471	60,292
Kapsabet	1,479	10,718	—
Kerugoya	3,357	26,046	81,117
Tambach	—	4,921	—
Rumuruti	—	7,555	—
Naivasha	224	4,973	—
Shauri Moyo	—	6,246	21,344
Wei Wei	—	—	6,498
Thomson's Falls	478	11,386	—
Maralal	591	3,205	—
Thika	2,696	8,857	—
Railway Dispensary, Kilindini	—	11,318	—
Sandford and Fort Hall Dispensaries	1,162	6,036	—
Maseno	451	866	—
Total	58,885	415,211	1,007,731

The feature of the work performed has been the general high standard of the medical and surgical work and of the nursing in the hospitals. That this has been maintained in spite of the crowded condition of the hospitals reflects the greatest credit on the staff responsible. It is pleasing to record here that on the whole the new African Medical Officers are rapidly being inculcated with the high ideals of British medicine and are showing every evidence of maintaining the high standard set by the European Medical Officers.

Surgery

Twenty-two thousand, three hundred and forty-four operations were performed in Government hospitals during the year and the nature of these operations is given in the following table. This table exemplifies the high standard of skill demanded from medical officers in the out districts, who have not been trained as surgeons. The Senior Surgical Specialist pays periodic visits to out stations in an advisory capacity and to supervise equipment.

The table of operations performed throughout the country shows the following details:—

	1944 *Out-patients*	1945 *Out-patients*
Europeans	1,153	1,049
Asians	1,579	857
Africans	20,073	20,438
	22,805	22,344

Anæsthetics

The large amount of surgical work performed necessitates an equally large number of anæsthetics. In the out station hospitals these are given by African Hospital Assistants. In general, the reports from Medical Officers show that these are satisfactorily given.

The Report of the Specialist Anæsthetist, Nairobi, gives the following details of anæsthetics given during 1945:—

	General	*Local*	*Spinal*	*Total*
Europeans	668	63	9	740
Asians	683	198	79	960
Africans	8,383	2,862	428	11,673
Grand Total	9,734	3,123	516	13,373

List of Operations

Nature of Operation	*Number performed*
1. Stomach and Duodenum:—	
(*a*) Closure of perforations	1
(*b*) Gastro-enterostomy	1
(*c*) Gastrectomy	1
2. Intestines:—	
(*a*) Closure of wounds and perforations	6
(*b*) Resection and/or anastomosis	8
(*c*) Reduction of volvulus	21
(*d*) Reduction of intussusception	14
(*e*) Division of adhesions or bands	11
(*f*) For any other cause of obstruction	9
(*g*) Formation of closure of artificial anus	9
(*h*) Appendicectomy and/or appendicular drainage	139
(*i*) Drainage of other peritoneal abscesses	17
(*j*) Omentopexy	—
(*k*) Exploratory laparotomy	125
(*l*) Paracentesis	135
3. Rectum and Anus:—	
(*a*) Excision of rectum	2
(*b*) Treatment of prolapse	26
(*c*) For fissure and fistula	14
(*d*) For ischio-rectal abscess	19
(*e*) Ligature of hæmorrhoids	36
(*f*) Injection of hæmorrhoids	51
(*g*) Sigmoidoscopy	79
(*h*) Imperforated anus	6
(*i*) Dilation	1
4. Hernia:—	
(*a*) Inguinal	421
(*b*) Femoral	9
(*c*) Umbilical	14
(*d*) Incisional	7

Nature of Operation	*Number performed*
5. Liver, Spleen and Pancreas:—	
(*a*) Upon liver	31
(*b*) Cholecystectomy	25
(*c*) Other operations upon gall bladder and bile ducts	2
(*d*) Splenectomy	5
(*e*) For pancreatitis	1
(*f*) Splenic anscess	17
6. Urinary System:—	
(*a*) Nephrotomy	4
(*b*) Nephrectomy	5
(*c*) Perinephric exploration	1
(*d*) Upon ureters (excluding operation for vesigo-vaginal fistula)	8
(*e*) Cystotomy and suprapubic drainage	70
(*f*) Prostatectomy	18
(*g*) Urethrotomy	13
(*h*) For urethral fistula and abscess	10
(*i*) Cystoscopy and ureteric catheterization	83
(*j*) Urethral catheterization and passage of sounds	545
(*k*) Cystectomy	1
7. Male Organs of Generation:—	
(*a*) Circumcision	336
(*b*) Others for paraphimosis	56
(*c*) Amputation of penis	2
(*d*) Hydrocelotomy	205
(*e*) For varicocele	2
(*f*) Upon testis and epidymis	23
8. Female Organs of Generation:—	
(*a*) Ovariotomy	44
(*b*) Salpingotomy	40
(*c*) Salpingostomy, for sterility	14
(*d*) Myomectomy	13
(*e*) Hysterectomy	84
(*f*) Hysteropexy	21
(*g*) Caesarian section	86
(*h*) For extra-uterine gestation	13
(*i*) Drainage of pevic abscess	19
(*j*) Instrumental delivery and destruction of foetus	245
(*k*) For vesico or recto-vaginal fistula—	
(i) Plastic repair	38
(ii) Uretero-colic anastomosis	24
(*l*) Colporrhaphy and perineorrhaphy	62
(*m*) Removal of uterine contents and/or dilation and curettage	415
(*n*) Induction of labour or abortion	60
(*o*) Insufflation of fallopian tubes	104
(*p*) Uterine drainage	4
(*q*) Examination and/or manipulation of uterus of foetus	119
(*r*) Upon cervix	59
(*s*) Others upon vagina and vulva	53
9. Eye:—	
(*a*) For entropion	41
(*b*) For cataract	39
(*c*) For glaucoma	1
(*d*) Iridectomy	11
(*e*) Enucleation and evisceration	42
(*f*) Corneal ulcer	3
(*g*) Removal of foreign bodies	28
10. Ear, Nose and Throat:—	
(*a*) Myringotomy	3
(*b*) Mastoidotomy	25
(*c*) Removal of foreign bodies	50
(*d*) Reduction of nasal fracture	1
(*e*) Resection of septum	8
(*f*) Turbinectomy and/or drainage of sinuses	12
(*g*) Removal of tumours	18
(*h*) Tonsillotomy by guillotine	25
(*i*) Tonsillectomy, by dissection (both including removal of adenoids)	140
(*j*) For quinzy	13
(*k*) Uvulotomy	38
(*l*) Laryngoscopy, bronchoscopy and œsophagoscopy	12
11. Mouth and Neck:—	
(*a*) Extraction of teeth	4,734
(*b*) Upon jaws (including treatment of fractures)	35
(*c*) Upon tongue and lips (including removal of tumours, but excluding plastic operations)	16
(*d*) Excision or treatment of glands in neck	76
(*e*) Tracheotomy	10
(*f*) Thyroidectomy (including ligature of thyroid vessels)	24
(*g*) For thyro-glossal cysts	6

Nature of Operation	*Number performed*
12. Chest:—	
(*a*) Thoracotomy and pleural drainage	53
(*b*) Phrenic avulsion	2
(*c*) Artificial pneumothorax	21
(*d*) Paracentesis	151
(*e*) Thoracoplasty	1
13. Mammary Glands:—	
(*a*) Mastectomy	16
(*b*) Excision of tumour	15
(*c*) Incision of abscess	71
14. Cranium:—	
(*a*) Decompression and treatment of fracture and hæmorrhage	44
(*b*) Drainage of intracranial abscess	1
15. Spinal Column:—	
(*a*) Laminectomy	7
(*b*) Bone graft	16
(*c*) Manipulation and/or external fixation (for tuberculosis fracture and other conditions, including application of plaster jacket)	98
(*d*) Lumbar and cisternal puncture	521
(*e*) Spinal injection	11
16. Bones:—	
(*a*) For fractures—	
(i) Open operations including bone graft, application of plates and other mechanical aids	179
(ii) Manual and instrumental reduction and/or application of splints and plaster	2,009
(*b*) For osteomyelitis, osteitis and periostitis—	
(i) Acute	24
(ii) Chronic (including sequestrectomy and/or application of plaster)	348
(*c*) Removal of tumours	25
17. Joints:—	
Arthrotomy—	
(i) For sepsis	24
(ii) For removal of loose or foreign bodies	18
(*b*) Excision of joint	56
(*c*) Reduction of dislocation	141
(*d*) Manipulation for other purposes	67
(*e*) External fixation (including application of plaster)	161
(*f*) Aspiration	204
18. Amputations:—	
(*a*) Of fingers	213
(*b*) Of hand and forearm	21
(*c*) Of arm	25
(*d*) Of toes	81
(*e*) Of foot and leg	86
(*f*) Of thigh	35
19. Arteries, Veins and Nerves:—	
(*a*) For aneurysm	4
(*b*) Ligature of vessels	18
(*c*) For angioma	4
(*d*) Injection of varicose veins	2
(*e*) Nerve suture and neurolysis	2
(*f*) Others upon nerves (including stretching and injection)	37
20. Orthopædic and Plastic Operations:—	
(*a*) Osteotomy (for deformities)	15
(*b*) Other treatment of deformities and contractures (including manipulation and application of splints and plaster)	135
(*c*) For hare lip and cleft palate	10
(*d*) Upon ears, nose and lips	34
(*e*) For elephantisis	47
(*f*) Skin graft	153
21. Conditions Unclassified Regionally:—	
(*a*) For ulcers (including skin graft)	2,245
(*b*) For other septic conditions (including incision of abscesses and whitlows)	2,902
(*c*) Suture and treatment of wounds (including tendon suture)	1,426
(*d*) Excision of superficial tumours (including cysts)	502
(*e*) Extraction of foreign bodies	341
(*f*) Removal of glands	39
(*g*) For bursitis and ganglion	80
(*h*) Treatment of burns	140
(*i*) Removal of parasites	22
22. Surgical Procedure Otherwise Unclassified	230
Grand Total	22,344

Diseases of the Eye

The return for 1945 furnished by the Ophthalmic Specialist, Nairobi, shows a slight decrease in the number of European and Asian cases treated, but this is more than outweighed by the considerable increase in the number of Africans treated. It is noteworthy that nearly 25 per cent of the African attendances have been on account of Trachoma.

Eye Clinic, General Dispensary, Nairobi

The following are details of work done and cases seen at the Eye Clinic held at the General Dispensary, Nairobi, during 1945:—

	Europeans	*Asians*	*Africans*
Conjunctivitis	78	199	2,762
Trachoma	3	95	1,537
Tumours	—	—	4
Others	507	780	1,913
Total number of new cases	588	1,074	6,216
Number of re-attendances	921	2,263	15,472
Number of males	355	995	4,364
Number of females	233	79	1,852
"Others" include disease of:—			
Orbit—			
Neuralgia	—	1	17
Cellulitis	—	—	3
Lids and Surrounding Structures—			
Blepharitis	3	4	40
Hordeolum	4	19	82
Chalazion	6	18	182
Trichiasis, districhasis	—	1	3
Entropion	1	1	34
Ectropion	—	—	2
Injuries	—	1	53
Other inflammation	2	3	76
Lechrimal Apparatus—			
Lacrimal gland	2	1	1
Lacrimal sac	2	—	11
Conjunctiva (other than conjunctivitis and trachoma)—			
Pterigium	2	4	13
Hæmorrhage	1	1	31
Tumour	—	1	2
Injuries	1	—	25
Others	1	—	5
Foreign bodies	9	15	74
Cornea—			
Foreign bodies	26	82	210
Opocities	—	1	49
Ulcers	1	7	117
Other forms of keratitis	1	3	94
Injuries	3	17	72
Others	2	2	11
Staphyloma	—	—	21
Lens and Vitreous—			
Cataract	4	6	71
Uveal Tract—			
Irido-cyclitis	6	—	45
Others	—	—	2
Retina—			
Others	—	1	1
Optic Nerve and Central Connections—			
Optic Neuritis	—	—	8
Atrophy	—	—	9
Night blindness	1	—	74
Others	—	1	6
Glaucoma	1	6	17
Panophthalmitis	—	—	5
Contusion of globe	1	1	90
Vision tests	38	380	226
Errors of refraction	382	194	96
Miscellaneous	6	2	18

Medical Training of Africans

There was no material alteration in the course of training for Africans intending to qualify as Hospital Assistants and Hospital Orderlies. The training school is now responsible for laboratory learners and sixteen of them are now resident.

Nine candidates qualified as Hospital Assistants at the examination held at the end of the year, and seven candidates qualified for promotion to Grade I Hospital Assistant.

On the whole, the conduct of the students was not of a very good standard during the year.

The training of hygiene and sanitary personnel has already been dealt with.

Venereal Diseases Clinics

It is a matter of common knowledge that in the 1914-18 war there was a great increase in the incidence of venereal disease in the troops and also in the civilian population. The peak of the curve of incidence was not reached until two years after hostilities ceased. It required another four years for the curve to return to a normal level. A feature of the outbreak was the large number of infective men returning to their homes and in many instances infection appeared in rural districts for the first time.

It would appear that the same danger is facing East Africa to-day as is shown by the following figures for the past four years for cases treated at Government Hospitals:—

	1942	1943	1944	1945
Syphilis	13,777	13,382	13,907	17,105
Gonorrhœa	6,481	7,807	8,032	11,899
TOTAL V.D. ..	20,258	21,189	21,939	29,004

These figures show an increase of about 32 per cent for 1945 over 1944. In an endeavour to combat this menace, several new clinics have been established for the treatment of women, but these can only touch the fringe of the problem, and it is becoming increasingly evident that more drastic measures will have to be undertaken to stop the spread of venereal disease throughout the native reserves.

Another disturbing feature is the increasingly frequent reports of sulphonamide resistant cases in gonorrhœa. At the present moment investigations are being carried out in the Medical Research Laboratory on the most efficient and economical method for treatment with penicillin, and it is hoped that as supplies of penicillin become abundant and cheaper some headway can be made against the ravages of the disease.

Medical Work Carried Out By Missionary Societies

The number of hospital beds maintained by the Missionary Societies receiving medical grants from Government, the number of patients treated in these institutes, and the amount of the grants given are shown in the following tables:—

Mission	Place	No. of Beds	In-patients	Out-patients	Out-Dispensary patients	Confinements	Amount of Grants
							£
C.S.M. ..	Kikuyu	90	1,281	18,168	Nil	207	600
,, ..	Chogoria	68	3,608	18,536	36,269	159	900
,, ..	Tumutumu ..	115	2,795	22,861	76,366	1,619	1,440
C.M.S. ..	Kaloleni	68	1,389	47,686	Nil	3	—
,, ..	Maseno	82	—	—	—	—	—
S.D.A. ..	Kendu	75	2,194	15,020	7,800	252	536
M.M.S. ..	Meru	54	2,066	19,880	Nil	49	370
N.M.S. ..	Ngao	18	74	1,859	1,424	12	100

C.S.M.—Church of Scotland Mission.
C.M.S.—Church Missionary Society.
S.D.A.—Seventh Day Adventists.
M.M.S.—Methodist Missionary Society.
N.M.S.—Neukirchen Mission Society.

Prisons and Asylums

The general health of the prisoners was satisfactory and no epidemics occurred during the year. Nevertheless, the state of overcrowding in the prisons of the Colony is such that there is a constant and very real danger of epidemics occurring and the only explanation that can be offered for the absence of such outbreaks during the past year is that the prison authorities, in so far as funds permit, give meticulous attention to all recommendations made by the visiting Medical Officers.

The vital statistics for the prisons of the Colony for the last three years are as follows:—

YEAR	In-patients	Daily Average Per Cent In-patients	New Cases Out-patients	Daily Average Per Cent New Cases Out-patients	Deaths	Daily Average in Prison
1943	2,244	58 78	40.98	11 23	49	916 60
1944	3,081	63.8	48.75	13.32	47	1,002.88
1945	2,307	77.05	55.85	15.31	32	1,776 99

The 32 deaths were from natural causes and were due to the following diseases:—

DISEASES	Nairobi Prison	All Other Prisons	Total
Fracture	1	—	1
Pneumonia	10	3	13
Dysentery	—	1	1
Smallpox	—	3	3
Epidemic Cerebro Spinal Fever	—	1	1
Pleurisy	—	1	1
Other diseases of the skin	—	1	1
Tuberculosis	6	—	6
Diarrhœa and Enteritis	1	—	1
Other forms of mental alienation	4	—	4
TOTAL	22	10	32

One hundred and ninety-two mental cases were admitted to the prison hospitals, both certified insane and for mental observation.

The Mathari Mental Hospital

During the year no additional accommodation was provided for European or Asian patients, but on the African side a new ward for twenty male cases was completed and occupied in April. This addition did not completely alleviate the overcrowding, but did provide single rooms for the segregation of disturbed cases, which has not been possible in past years. Small additions to the ancillary buildings of the hospital were made during the year and rendered administration much easier.

An electrical convulsion therapy apparatus was obtained during the year, and shock treatment for selected cases was given to all races. Although it is too early to report progress on this type of treatment, the results so far have been encouraging.

During the year, five Europeans, one Asian and nineteen African military cases were admitted. This is the lowest figure since 1941.

Four chronic Italian mental cases were housed in the European section throughout the year, and efforts are being made to secure their repatriation.

The following tables give the statistics for the hospital for 1945:—

Maniac depressive	32
Involution melancholia	9
Schizophrenia	189
Paranoia	19
Neurospirochætal	15
Senile dementia	19
Other organic reactions	58
Epilepsy	18
Terminal dementia	16
Psychoneuroses	22
Imbecility	4
Feeble-mindedness	52
Moral defects	27
Unclassified	75
Total	560

Males	399
Females	161
	560

General Statistics

The following table shows the number of admissions, discharges and deaths for the past three years, 1943, 1944 and 1945:—

	Admissions			Discharges			Deaths		
	1943	1944	1945	1943	1944	1945	1943	1944	1945
Males	172	197	187	113	121	127	55	42	26
Females	64	70	70	44	50	47	22	6	9
Total ..	236	267	257	157	171	174	77	48	35

The total number of patients treated during the year was 560 (399 males and 161 females).

The total number of patient days in hospital was:—

	1943	1944	1945
European—Male and Female	3,362	4,315	5,336
Asian—Male and Female	6,174	6,807	9,633
Native—Male	56,128	64,097	75,714
,, —Female	26,265	27,936	29,743
Total ..	91,929	103,155	120,426

	1943	1944	1945
The average daily number was	250	282	330

Remaining at the end of 1943 .. 255=Males 178, Females 77.
Remaining at the end of 1944 .. 303=Males 212, Females 91.
Remaining at the end of 1945 .. 351=Males 246, Females 105.

European Section

The total number treated during 1945 was 41 (26 males and 15 females). The details are:—

	Males	Females
Remaining from 1944	8	4
Admitted during 1945	18	11
Discharged during 1945	17	9
Died during 1945..	1	—
Remaining end of 1945	8	6

Total Number of Days Resident—	Males	Females
Of those discharged	696	2,057
Of those died	342	—
Of those remaining	3,231	6,521
Total ..	4,169	8,578

Asiatic Section

The total number treated during the year 1945 was 53 (34 males and 19 females). The details are:—

	Males	Females
Remaining from 1944	17	7
Admitted during 1945	17	12
Discharged during 1945	13	9
Died during 1945	4	—
Remaining at the end of 1945	17	10

The total number of days residence in hospital of:—

	Males	Females
Those discharged during 1945	1,705	436
Those remaining at the end of 1945 ..	22,241	12,193
Those who died during 1945	2,906	—
Total.. ..	29,758	12,629

AFRICAN SECTION

	Males	Females
Remaining from 1944	187	80
Admitted during 1945	152	47
Discharged during 1945	97	29
Died during 1945	21	9
Remaining at end of 1945	221	89

The total number of days of these was:—

	Males	Females
Those discharged during 1945	22,578	7,451
Those remaining at end of 1945 ..	286,822	109,222
Those who died in 1945	13,677	8,105
TOTAL ..	323,077	124,778

Patients were admitted during the year from the following places:—

	Males	Females	Total
Nairobi	87	36	123
Machakos	6	4	10
Meru	2	1	3
Kiambu	6	1	7
Kapsabet	1	—	1
Fort Hall	15	3	18
Kitui	2	1	3
Eldoret	3	—	3
Kisii	2	—	2
Mombasa	10	6	16
Nyeri	7	4	11
Kisumu	7	1	8
Kitale	8	2	10
Nakuru	5	2	7
Kilifi	2	—	2
Voi	4	1	5
Marsabit	1	—	1
Kericho	11	7	18
Kakamega	3	—	3
Kabarnet	1	—	1
Kajiado	2	—	2
Embu	2	—	2
Thika	—	1	1
TOTAL ..	187	70	257

DISCHARGES, 1945

European	17 Males	9 Females
Indian	13 Males	9 Females
African	97 Males	29 Females

PERCENTAGE OF DEATHS TO TOTAL OF PATIENTS, 1941 TO 1945

YEAR	Patients	Deaths	Percentage
1941	469	36	7.67
1942	455	41	9 01
1943	489	77	15 74
1944	522	48	8.43
1945	560	35	6.25

TABLE II—FINANCIAL

The sanctioned Medical budget for the year 1945 was a total of £385,898 as compared with £351,592 for the preceding twelve months.

The headings under which the vote was arranged were as follows:—

MEDICAL DEPARTMENT

	Estimates	*Actual Expenditure*
	£	£
Administrative Division—Personal Emoluments	12,837	12,033
Medical Division—Personal Emoluments	42,378	43,663
Sanitation Division—Personal Emoluments	6,753	6,446
Laboratory Division—Personal Emoluments	18,482	17,033
Laboratory Division—Other Charges	43,844	48,637
	£124,294	£127,812
Native Services—Personal Emoluments	119,342	120,729
Native Services—Other Charges	119,057	112,876
	£238,399	£233,605
Extraordinary Expenditure	£23,205	£26,982

The total amount of revenue collected was as follows:—

	£	£
Hospital Fees	21,415	
Infectious Diseases Hospital—Fees—Nairobi Municipality Infectious Diseases Hospital—Fees—Mombasa Municipality	3,634	
Fees from Medical Research Laboratory	11,564	
Registration Fees	42	
Sales of Medicines, Stores, etc.	348	
Sales of Quinine	7,302	
Hire of Government Motor Vehicles (Ambulances)	109	
	£44,414	£44,414
Reimbursement from Uganda Government on account of Zanzibar Sanitary Station	244	
Reimbursement from Kenya and Uganda Railways and Harbours on account of medical services	9,341	
Reimbursement from Municipalities on account of Public Health staff	2,341	
Reimbursement on account of messing expenses, European Hospital, Nairobi	693	
	£13,261	13,261
		£57,675

Last year the total revenue collected amounted to £60,854.

TABLE III—RETURN OF STATISTICS OF POPULATION FOR THE YEAR 1945

Colony and Protectorate of Kenya	Europeans and Whites	Africans and Others	Asiatics
Estimated Number of inhabitants in 1945	23,706	African : 4,500,000 Others : —	112,583
Number of births registered in 1945	570	African : Unknown Others : 466	Indians : 3,467 Goans : 205
Number of deaths registered in 1945	248	African : Unknown	Indians : 361 Goans : 21
Number of immigrants during 1945	5,745	3,854	Indians : 12,934 Goans : 751
Number of emigrants during 1945	4,333	1,319	Indians : 7,656 Goans : 661

TABLE IV

COLONY AND PROTECTORATE OF KENYA

RETURN OF DISEASES (In-Patients)

For the Year 1945

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including OFFICIALS)					NATIVE GENERAL POPULATION (including OFFICIALS)				
	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES																				
1. Enteric Group—																				
(*a*) Typhoid Fever	—	2	—	2	—	—	7	1	7	—	—	18	1	18	—	30	655	128	685	31
(*b*) Paratyphoid A	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	1	24	9	25	—
(*c*) Paratyphoid B	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	9	—	9	—
(*d*) Type not defined ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	5	29	1
2. Typhus	—	—	—	—	—	1	10	—	11	—	—	—	—	—	—	2	20	2	22	—
3. Relapsing Fever	—	—	—	—	—	—	4	—	4	—	—	4	1	4	—	7	1,188	50	1,195	28
4. Undulant Fever	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	1	23	1	24	4
5. Malaria—																				
(*a*) Tertian	—	14	—	14	—	2	31	—	33	—	—	14	—	14	—	39	926	37	965	12
(*b*) Quartan	—	1	—	1	—	—	1	—	1	—	—	3	—	3	—	3	215	6	218	4
(*c*) Aestivo-autumnal ..	2	60	—	62	1	5	177	1	182	2	—	167	—	167	—	92	8,340	263	8,432	97
(*d*) Clinical	—	41	—	41	—	1	109	—	110	—	7	1,202	—	1,209	7	94	7,117	96	7,211	81
(*e*) Cachexia	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	4	86	6	90	2
(*f*) Blackwater	—	—	—	—	—	—	2	1	2	—	—	4	1	4	—	—	29	7	29	7
6. Smallpox	—	—	—	—	—	—	—	—	—	—	—	14	2	14	—	21	436	14	457	13
Alastrim	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
7. Measles	—	—	—	—	—	—	14	—	14	—	8	57	—	65	—	48	1,164	11	1,212	12
8. Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—
9. Whooping Cough	—	—	—	—	—	—	12	—	12	—	—	5	—	5	—	20	1,563	67	1,583	36
10. Diphtheria	1	2	—	3	—	—	1	—	1	—	—	5	1	5	—	—	31	5	31	—
11. Influenza	2	55	—	57	1	—	285	—	285	—	4	1,572	—	1,576	7	41	1,997	1	2,038	19
12. Miliary Fever	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
13. Mumps	—	1	—	1	—	—	—	—	—	—	—	9	—	9	—	6	275	—	281	3
14. Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15. Epidemic diarrhœa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16. Dysentery—																				
(*a*) Amœbic	—	18	—	18	—	—	31	—	31	—	—	31	1	31	—	40	1,536	49	1,576	20
(*b*) Bacillary	—	4	—	4	—	—	9	—	9	—	—	20	—	20	—	19	1,210	52	1,229	22
(*c*) Undefined or due to other causes	—	3	—	3	—	—	6	—	6	—	1	51	—	52	1	20	548	20	568	15

17. Plague—																				
(*a*) Bubonic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	13	30	3
(*b*) Pneumonic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Septicæmic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—
(*d*) Undefined	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18. Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19. Spirochætosis ictero-hæmorrhagica	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20. Leprosy	—	—	—	—	—	—	—	—	—	—	2	2	—	4	4	22	105	5	127	23
21. Erysipelas	—	2	—	2	—	—	—	—	—	—	—	2	—	2	—	2	53	1	55	—
22. Acute Poliomyelitis	—	—	—	—	—	—	1	—	1	1	—	—	—	—	—	—	44	2	44	—
23. Encephalitis Lethargica	—	—	—	—	—	1	6	—	7	—	—	1	1	1	—	1	4	2	5	—
24. Epidemic Cerebro-spinal Fever	—	—	—	—	—	—	1	—	1	—	—	11	4	11	—	17	556	189	573	12
25. Other Epidemic Diseases	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
(*a*) Rubeola (German Measles)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
(*b*) Varicella (Chicken-pox)	—	2	—	2	—	—	10	—	10	—	—	11	—	11	1	29	1,374	1	1,403	27
(*c*) Kala-azar	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3	—	5	—
(*d*) Phlebotomus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Dengue	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*f*) Epidemic Dropsy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*g*) Yaws	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69	770	3	839	33
(*h*) Trypanosomiasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	35	6	37	2
26. Glanders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27. Anthrax	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	9	629	51	638	12
28. Rabies	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41	7	41	—
29. Tetanus	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—	2	129	69	131	3
30. Mycosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	—	15	—
31. Tuberculosis, Pulmonary and Laryngeal	—	—	—	—	—	3	5	1	8	1	—	10	1	10	—	77	1,575	358	1,652	143
32. Tuberculosis of the Meninges or Central Nervous System	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	77	62	78	2
33. Tuberculosis of the Intestines or Peritoneum	—	—	—	—	—	—	1	—	1	—	—	1	1	1	—	2	92	32	94	2
34. Tuberculosis of the Vertebral Column	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	118	14	120	4
35. Tuberculosis of Bones and Joints	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	10	111	14	121	13
36. Tuberculosis of Other Organs—																				
(*a*) Skin or Subcutaneous Tissue (Lupus)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	—	17	—
(*b*) Bones	—	—	—	—	—	—	—	—	—	—	1	1	—	2	—	—	18	2	18	1
(*c*) Lymphatic System	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	185	10	194	8
(*d*) Genito-urinary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	24	1	26	2
(*e*) Other Organs	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	46	13	46	—
37. Tuberculosis Disseminated—																				
(*a*) Acute	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	29	27	30	—
(*b*) Chronic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	5	—	7	—
38. Syphilis—																				
(*a*) Primary	—	—	—	—	—	—	2	—	2	—	—	3	—	3	—	51	1,821	3	1,872	90
(*b*) Secondary	—	—	—	—	—	2	8	—	10	6	—	5	—	5	—	165	2,742	14	2,907	155
(*c*) Tertiary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	220	16	234	7
(*d*) Hereditary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	258	33	269	9
(*e*) Period not indicated	—	—	—	—	—	—	—	—	—	—	1	3	1	4	—	2	237	8	239	20

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	European Officials					European General Population					Asiatic Generl Population (including Oafficials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining Hospital at end of year 1945	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945
I.—Epidemic, Endemic and Infectious Diseases—(*Contd.*)																				
39. Soft Chancre	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	21	285	—	306	7
40. A.—Gonorrhœa and its complications	1	1	—	2	—	—	28	—	28	6	—	9	—	9	—	159	5,376	10	5,535	210
B.—Gonorrhœal Ophthalmia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	786	—	786	1
C.—Gonorrhœal Arthritis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	109	—	109	2
D.—Granulomo Venereum ..	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	3	8	—	11	—
41. Septicæmia	—	—	—	—	—	—	5	1	5	—	—	4	—	4	—	2	96	63	98	2
42. Other Infectious Diseases ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	6	1
II.—General Diseases not Mentioned Above																				
43. Cancer or other Malignant Tumours of the Buccal Cavity	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	2	10	—
44. Cancer or other Malignant Tumours of the Stomach or Liver	—	2	—	2	—	—	3	3	3	—	—	—	—	—	—	—	54	32	54	—
45. Cancer or other Malignant Tumours of the Peritoneum Intestines, Rectum ..	—	—	—	—	—	—	2	—	2	—	—	1	—	1	—	1	13	6	14	1
46. Cancer or other Malignant Tumours of the Female Genital Organs	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	15	6	16	1
47. Cancer or other Malignant Tumours of the Breast ..	—	1	—	1	—	—	5	1	5	—	—	—	—	—	—	2	17	2	19	2
48. Cancer or other Malignant Tumours of the Skin ..	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	32	2	33	2
49. Cancer or other Malignant Tumours of Organs not Specified	1	1	1	2	—	1	9	1	10	—	—	5	2	5	—	5	91	31	96	1
50. Tumours, Non-Malignant ..	—	7	—	7	—	—	30	—	30	—	—	14	—	14	—	7	357	15	364	8
51. Acute Rheumatism	—	3	—	3	—	—	2	—	2	—	1	92	—	93	6	11	283	3	294	7
52. Chronic Rheumatism	—	1	—	1	—	—	2	—	2	—	—	38	—	38	1	28	576	2	604	16
53. Scurvy (including Barlow's Disease)	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	35	2	35	2
54. Pellagra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	109	30	118	13

55. Beri-beri	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	8	1	10	—
56. Rickets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—
57. Diabetes (not including Insipidus)	—	6	—	6	—	—	9	2	9	—	—	19	1	19	—	—	39	3	39	2
Avitiminosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	2	11	—
58. Anæmia—																				
(*a*) Pernicious	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—	—	7	4	7	—
(*b*) Other Anæmias and Chlorosis	—	3	—	3	—	—	3	—	3	1	—	30	4	30	—	15	415	40	430	27
59. Diseases of the Pituitary Body	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
60. Diseases of the Thyroid Gland																				
(*a*) Exophthalmic Goitre ..	—	—	—	—	—	1	5	1	6	—	—	2	—	2	—	—	15	1	15	—
(*b*) Other Diseases of the Thyroid Gland Myxœdema	—	—	—	—	—	—	6	—	6	—	—	1	—	1	—	2	17	—	19	—
61. Diseases of the Para-Thyroid Glands	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
62. Diseases of the Thymus ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
63. Diseases of the Supra-Renal Glands	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
64. Diseases of the Spleen	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	96	4	97	—
65. Leukæmia— ..																				
(*a*) Leukæmia	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	4	—	4	1
(*b*) Hodgkin's Disease ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	3	6	—
66. Alcoholism	—	2	—	2	—	—	4	—	4	2	—	8	—	8	—	—	35	4	35	1
67. Chronic poisoning by mineral substances (lead, mercury, etc.)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—
68. Chronic poisoning by Organic Substances (Morphia, Cocaine, etc.)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
69. Other General Diseases—																				
Auto-intoxication	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Purpura Hæmorrhagica ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	2	4	—
Hæmophilia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	1	3	—
Diabetes Insipidus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	2	3	—
Others	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—	—	—	—	—	—
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES																				
70. Encephalitis (not including Encephalitis Lethargica) ..	—	—	—	—	—	—	1	—	1	1	—	—	—	—	—	1	20	10	21	3
71. Meningitis (not including Tuberculous Meningitis or Cerebrospinal Meningitis)	—	—	—	—	—	—	—	—	—	—	—	6	3	6	—	3	207	97	210	6
72. Locomotor Ataxia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
73. Other Affections of the Spinal Cord	—	—	—	—	—	—	1	—	1	—	—	1	1	1	—	—	12	5	12	6
74. Apoplexy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—
(*a*) Hæmorrhage	—	—	—	—	—	—	3	1	3	1	—	—	—	—	—	—	18	13	18	—
(*b*) Embolism	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—
(*c*) Thrombosis	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	1	12	6	13	2

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including OFFICIALS)					NATIVE GENERAL POPULATION (including OFFICIALS)				
	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES—(*Contd.*)																				
75. Paralysis—																				
(*a*) Hemiplegia	—	—	—	—	—	—	1	—	1	—	—	3	1	3	1	—	52	1	52	5
(*b*) Other Paralyses	—	1	—	1	—	—	1	—	1	—	—	5	—	5	1	5	105	7	110	7
76. General Paralysis of the Insane	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	1	17	—
77. Other Forms of Mental Alienation	—	—	—	—	—	12	30	1	42	14	24	30	4	54	27	267	482	40	749	325
78. Epilepsy	—	—	—	—	—	—	3	—	3	—	—	5	—	5	—	3	100	4	103	16
79. Eclampsia Convulsions (non-puerperal) 5 years or over	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	7	1	7	—
80. Infantile Convulsions	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	8	3	9	—
81. Chorea	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	12	—	12	3
82. A.—Hysteria	—	—	—	—	—	—	1	—	1	—	—	4	—	4	—	1	40	—	41	—
B.—Neuritis	—	3	—	3	—	—	3	—	3	—	1	15	—	16	—	2	155	1	157	5
C.—Neurasthenia	—	6	—	6	—	—	9	—	9	—	2	33	—	35	—	—	28	—	28	—
83. Cerebral Softening	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	3	6	—
84. Other Affections of the Nervous System, such as Paralysis Agitans	—	—	—	—	—	—	1	—	1	—	—	13	—	13	1	—	13	—	13	—
85. Affections of the Organs of Vision—																				
(*a*) Conjunctivitis	—	—	—	—	—	—	1	—	1	—	—	39	—	39	1	21	1,195	—	1,216	27
(*b*) Trachoma	—	—	—	—	—	—	2	—	2	—	—	6	—	6	—	9	270	—	279	8
(*c*) Tumours of the Eye	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62	2	62	7
(*d*) Other Affections of the Eye	—	4	—	4	—	1	16	—	17	—	—	35	—	35	—	22	797	2	819	27
86. Affections of the Ear or Mastoid Sinus	—	7	—	7	—	—	20	—	20	—	—	26	—	26	—	12	473	1	485	18
IV.—AFFECTIONS OF THE CIRCULATORY SYSTEM																				
87. Pericarditis	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	19	9	19	1
88. Acute Endocarditis or Myocarditis	—	1	—	1	—	—	1	1	1	—	—	2	2	2	—	1	22	4	23	—
89. Angina Pectoria	—	2	—	2	—	—	2	1	2	—	—	3	1	3	1	—	3	1	3	—
90. Other Diseases of the Heart—																				
(*a*) Valvular—	—	1	—	1	—	—	2	1	2	—	—	—	—	—	—	3	58	19	61	1
Mitral	—	—	—	—	—	—	1	—	1	—	—	2	—	2	—	3	63	15	66	3
Aortic	—	—	—	—	—	—	1	—	1	—	1	1	—	2	—	—	7	3	7	—

Tricuspid	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
(*b*) Myocarditis	—	4	1	4	—	—	6	1	6	1	—	1	1	1	—	2	41	10	43	—
Others	—	—	—	—	—	—	2	—	2	1	—	4	1	4	—	—	61	20	61	4
91. Disease of the Arteries—																				
(*a*) Aneurism	1	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	4	—	4	1
(*b*) Arterio-Sclerosis	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	1	—	1	—
(*c*) Other Diseases	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	2	1	2	—
92. Embolism or Thrombosis (Non-Cerebral)	—	1	—	1	—	—	—	—	—	—	—	2	2	2	—	—	1	1	1	—
93. Diseases of the Veins—Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	3	5	1
Hæmorrhoids	1	8	—	9	—	—	10	—	10	1	1	32	—	33	1	1	46	—	47	—
Varicose Veins	—	1	—	1	—	—	4	—	4	—	—	2	—	2	—	1	16		17	—
Phlebitis	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	11	3	12	—
94. Diseases of the Lymphatic System—Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	3	2	4	2
Lymphangitis	—	2	—	2	—	1	1	—	2	—	—	—	—	—	—	—	28	—	28	1
Lymphadenitis, Budo (Non-Specific)	—	9	1	9	—	—	7	—	7	—	—	11	—	11	—	7	383	2	390	8
95. Hæmorrhage of undetermined Cause	—	—	—	—	—	—	1	—	1	—	—	4	1	4	—	—	47	5	47	—
96. Other Affections of the Circulatory System	—	3	—	3	—	—	5	—	5	—	—	11	—	11	—	—	14	2	14	—
V.—AFFECTIONS OF THE RESPIRATORY SYSTEM																				
97. Diseases of the Nasal Passages—																				
Adenoids	—	7	—	7	—	—	17	—	17	—	—	6	—	6	1	1	53	—	54	1
Polypus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	9	1
Rhinitis	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	1	19	—	20	—
Coryza	—	9	—	9	—	—	8	—	8	—	—	56	—	56	—	6	489	—	495	3
98. Affections of the Larynx—																				
Laryngitis	—	2	—	2	—	—	5	—	5	—	—	6	—	6	—	—	166	2	166	2
99. Bronchitis	—	—	—	—	—	—	—	—	—	—	2	48	—	50	—	—	465	1	465	15
(*a*) Acute	—	7	—	7	—	2	23	—	25	—	—	122	—	122	1	34	2,435	23	2,469	45
(*b*) Chronic	—	2	—	2	—	—	1	—	1	—	—	5	—	5	—	11	820	7	831	21
100. Broncho-Pneumonia	—	1	1	1	—	—	12	—	12	—	—	53	2	53	1	64	3,458	518	3,522	71
101. Pneumonia—																				
(*a*) Lobar	—	4	—	4	—	—	8	—	8	—	1	72	4	73	—	149	6,275	403	6,424	172
(*b*) Unclassified	—	3	—	3	—	—	2	—	2	—	1	18	—	19	1	17	515	66	532	13
102. Pleurisy, Empyema	—	1	—	1	—	1	8	—	9	—	—	12	—	12	1	12	244	17	256	16
103. Congestion of the Lungs	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	1	116	4	117	1
104. Gangrene of the Lungs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
105. Asthma	—	5	—	5	—	—	10	—	10	—	—	108	—	108	1	12	450	43	462	6
106. Pulmonary Emphysema	—	2	—	2	—	—	1	—	1	—	—	1	—	1	—	—	7	4	6	—
107. Other Affections of the Lungs	—	—	—	—	—	—	1	—	1	—	1	6	—	7	—	1	42	6	43	—
Pulmonary Spirochætosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including OFFICIALS)					NATIVE GENERAL POPULATION (including OFFICIALS)				
	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945
VI.—DISEASES OF THE DIGESTIVE SYSTEM																				
108. A.—Diseases of Teeth or Gums—																				
Caries	—	8	—	8	—	—	12	—	12	—	—	56	—	56	2	1	205	—	206	3
Pyorrhœa	—	—	—	—	—	—	—	—	—	—	—	10	—	10	1	—	95	—	95	2
B.—Other Affections of the Mouth	—	1	—	1	—	—	2	—	2	—	2	2	—	4	—	1	33	4	34	—
Stomatitis	—	—	—	—	—	—	—	—	—	—	—	6	—	6	—	6	207	11	213	6
Glossitis, etc.	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	31	2	31	1
109. Affections of the Pharynx or Tonsils	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	14	—	15	1
Tonsilitis	—	28	—	28	1	—	186	—	186	1	3	507	1	510	1	11	876	9	887	21
Pharyngitis	—	3	—	3	—	—	5	—	5	—	—	48	—	48	3	2	228	—	230	3
110. Affections of the Œsophagus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	—	18	—
111. A.—Ulcer of the Stomach	—	3	1	3	1	—	3	—	3	—	—	2	—	2	—	—	4	2	4	—
B.—Ulcer of the Duodenum	—	13	—	13	1	1	8	—	9	—	—	4	—	4	—	—	—	—	—	—
112. Other Affections of the Stomach	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	1	—	1	—
Gastritis	—	7	—	7	2	—	9	—	9	—	1	50	—	51	1	4	336	4	340	3
Dyspepsia	—	5	—	5	—	—	16	—	16	—	—	60	—	60	—	2	262	—	264	2
113. Diarrhœa and Enteritis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Under Two Years	—	—	—	—	—	—	4	—	4	—	—	28	1	28	—	8	1,182	144	1,190	14
114. Diarrhœa and Enteritis—																				
Two years and over	1	19	—	20	—	—	86	—	86	—	1	165	1	166	—	10	1,365	55	1,375	15
Colitis	—	—	—	—	—	—	6	—	6	1	—	7	—	7	1	—	128	3	128	—
Ulceration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	9	—
114A. Sprue	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—	—	4	—	4	—
115. Ankylostomiasis	—	2	—	2	—	—	3	—	3	—	—	2	—	2	—	5	406	7	411	4
116. Diseases due to Intestinal Parasites	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	20	—	20	1
(*a*) Cestoda (Tænia)	—	1	—	1	—	—	4	—	4	—	—	6	—	6	—	6	1,500	1	1,506	8
(*b*) Trematoda (Flukes)	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—
(*c*) Nematoda (Other than Ankylostoma)	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	1	47	—	48	—
Ascaris	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—	7	501	2	508	1
Trichocephalus dispar.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	5	—
Trichina	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dracunculus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Strongylus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	5	—
Oxyuris	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—

(*d*) Coccidia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Other Parasites	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	114	—	115	1
(*f*) Unclassified	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—
117. Appendicitis	—	12	—	12	—	—	94	—	94	4	3	76	4	79	2	1	75	2	76	7
118. Hernia	—	3	—	3	—	2	26	—	28	—	—	34	1	34	1	13	418	14	431	16
119. A.—Affections of the Anus Fistula, etc.	1	4	—	5	—	—	8	—	8	1	—	14	—	14	—	4	100	8	104	1
B.—Other Affections of the Intestines	—	3	—	3	—	—	3	1	3	—	—	5	1	5	—	1	98	32	99	2
Enteroptosis	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	18	12	18	—
Constipation	—	1	—	1	—	—	8	—	8	—	—	33	—	33	—	3	716	—	719	8
120. Acute Yellow Atrophy of the Liver	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	7	4	7	—
121. Hydatid of the Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	1	4	—
122. Cirrhosis of the Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	5	12	1
(*a*) Alcoholic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2	—	3	—
(*b*) Other Forms	—	—	—	—	—	—	2	1	2	—	—	2	—	2	—	1	42	15	43	1
123. Biliary Calculus	—	5	—	5	—	—	12	1	12	—	—	1	—	1	—	—	1	—	1	—
124. Other Affections of the Liver—																				
Abscess	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	46	17	46	
Hepatitis	—	4	—	4	—	—	10	—	10	—	—	22	—	22	1	12	272	18	284	13
Cholecystitis	—	—	—	—	—	1	10	—	11	—	—	3	—	3	—	—	20	—	20	1
Jaundice	1	2	—	3	—	—	1	1	1	—	1	9	—	10	—	—	160	7	160	4
Others..	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	21	3	22	1
125. Diseases of the Pancreas ..	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	—	1	1	1	—
126. Peritonitis (of unknown cause)	—	—	—	—	—	—	2	—	2	—	—	1	—	1	—	—	71	39	71	—
127. Other Affections of the Digestive System	—	1	—	1	—	—	3	—	3	—	—	7	—	7	—	4	17	1	21	1
VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)																				
128. Acute Nephritis	—	1	—	1	—	—	6	2	6	—	3	10	1	13	—	4	131	31	135	5
129. Chronic Nephritis	—	1	1	1	—	—	1	—	1	1	—	3	—	3	—	1	79	27	80	3
130. A.—Chyluria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—
B.—Schistosomiasis	—	1	—	1	—	—	1	—	1	—	—	5	—	5	—	31	1,030	10	1,061	34
131. Other Affections of the Kidneys	—	2	—	2	—	1	5	1	6	1	1	20	1	21	—	—	14	4	14	1
Pyelitis	—	1	—	1	—	—	14	—	14	1	—	7	—	7	—	1	40	1	41	2
132. Urinary Calculus	—	9	—	9	—	—	9	1	9	—	—	4	—	4	—	—	10	3	10	—
133. Other Diseases of the Bladder..	—	1	—	1	—	—	1	—	1	—	—	3	—	3	—	—	15	—	15	—
Cystitis	—	—	—	—	—	—	10	—	10	1	1	6	—	7	—	1	79	1	80	
134. Diseases of the Urethra—																				
(*a*) Stricture	—	2	—	2	1	—	5	—	5	—	—	6	—	6	—	4	118	3	122	
(*b*) Other	—	—	—	—	—	—	—	—	—	—	—	7	—	7	—	8	146	—	154	
135. Diseases of the Prostate—																				
Hypertrophy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—
Prostatitis	—	4	1	4	—	—	4	2	4	—	—	—	—	—	—	—	29	—	29	1
136. Diseases (Non-venereal) of the Genital Organs of Man—																				
Epididymitis	—	—	—	—	—	—	1	—	1	—	—	2	—	2	—	2	34	—	36	—
Orchitis	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	—	141	—	141	2
Hydrocele	—	—	—	—	—	—	2	—	2	—	—	9	—	9	—	7	160	1	167	5
Ulcer of Penis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	52	—	54	—
Others	—	—	—	—	—	—	1	—	1	—	1	2	—	3	—	2	158	1	160	6

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	European Officials					European General Population					Asiatic General Population (including Officials)					Native General Population (including Officials)				
	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945
VII.—Diseases of the Genito-urinary System (Non-venereal)—(*Contd.*)																				
137. Cysts or other Non-malignant Tumours of the Ovaries ..	—	7	—	7	—	—	14	—	14	—	1	5	1	6	—	3	82	8	85	2
138. Salpingitis	—	1	—	1	—	—	2	—	2	1	—	9	—	9	—	7	383	2	390	5
Abscess of the Pelvis ..	—	—	—	—	—	—	1	—	1	—	—	1	—	1	—	—	3	—	3	1
139. Uterine Tumours (Non-malignant)	—	5	—	5	—	3	17	—	20	1	1	4	—	5	—	3	72	2	75	1
140. Uterine Hæmorrhage (Non-puerperal)	—	5	—	5	—	—	12	—	12	—	—	7	—	7	—	2	47	3	49	1
141. A.—Metritis	—	1	—	1	—	—	16	—	16	—	—	—	—	—	—	1	38	—	39	—
B.—Other Affections of the Female Genital Organs ..	—	2	—	2	—	—	11	—	11	—	—	23	—	23	—	1	267	21	268	9
Displacement of Uterus ..	—	—	—	—	—	1	10	—	11	—	—	4	—	4	—	—	15	—	15	—
Amenorrhœa	—	1	—	1	—	—	—	—	—	—	—	3	—	3	—	—	34	—	34	—
Dysmenorrhœa	—	—	—	—	—	—	2	—	2	—	—	2	—	2	—	2	153	—	155	—
Leucorrhœa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	1	28	—
142. Diseases of the Breast (Non-puerperal)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—
Mastitis	—	2	—	2	—	—	8	—	8	—	—	6	—	6	—	2	90	1	92	4
Abscess of Breast	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—	2	65	2	67	1
VIII.—Puerperal State																				
143. A.—Normal Labour	—	—	—	—	—	—	30	—	30	—	—	66	—	66	1	92	4,600	7	4,692	90
B.—Accidents of Pregnancy ..	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	347	6	347	9
(a) Abortion	—	1	—	1	—	1	21	—	22	—	—	17	—	17	—	19	773	13	792	41
(b) Ectopic Gestation ..	—	—	—	—	—	—	2	—	2	—	—	2	—	2	—	—	236	3	236	1
(c) Other Accidents of Pregnancy	—	—	—	—	—	—	2	1	2	—	—	9	1	9	—	19	521	41	540	38
144. Puerperal Hæmorrhage ..	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	1	13	3	14	—
145. Other Accidents of Parturition	—	—	—	—	—	—	1	—	1	—	—	3	1	3	—	9	405	31	414	12
146. Puerperal Septicæmia	—	—	—	—	—	—	—	—	—	—	—	11	—	11	—	—	84	26	84	—
147. Phlegmasia Dolens	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	1	13	—
148. Puerperal Eclampsia	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	8	2	8	—
149. Sequelæ of Labour	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	—	23	—	23	1
150. Puerperal Affections of the Breast	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—

IX.—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES																				
151. Gangrene	—	—	—	—	—	—	1	—	1	—	1	1	—	2	—	3	67	15	70	—
152. Boil	—	7	—	7	—	—	6	—	6	—	—	43	—	43	1	1	124	1	125	2
Carbuncle	—	4	—	4	—	—	5	—	5	—	—	8	1	8	—	—	52	1	52	2
153. Abscess	—	8	—	8	—	—	26	2	26	1	4	90	—	94	—	57	1,868	21	1,925	71
Whitlow	—	—	—	—	—	—	—	—	—	—	—	7	—	7	—	—	117	2	117	1
Cellulitis	—	10	—	10	—	—	71	1	71	—	—	43	—	43	1	30	885	10	915	29
154. A.—Tinea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	667	—	668	21
B.—Scabies	—	—	—	—	—	—	—	—	—	—	—	12	—	12	—	35	677	—	712	8
155. Other Diseases of the Skin	—	5	—	5	—	1	7	—	8	—	—	53	—	53	1	17	501	6	518	10
Erythema	—	—	—	—	—	—	1	—	1	—	1	3	—	4	—	—	7	—	7	—
Urticaria	—	1	—	1	—	—	1	—	1	—	—	27	—	27	—	—	62	4	62	1
Eczema	—	1	—	1	—	—	1	—	1	—	1	18	—	19	—	1	168	—	169	6
Herpes	—	1	—	1	—	—	2	—	2	—	—	—	—	—	—	—	35	—	35	1
Psoriasis	—	—	—	—	—	—	—	—	—	—	1	3	—	4	—	—	12	—	12	—
Elephantiasis	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	3	70	2	73	—
Myiasis	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	10	—	11	—
Chigoes	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	1	74	1	75	1
Cutaneous Leishmaniasis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ulcers	—	4	—	4	—	—	6	—	6	—	—	35	—	35	1	320	5,950	20	6,270	250
X.—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS)																				
156. Diseases of Bones— Osteitis	—	5	—	5	—	—	3	—	3	1	2	7	—	9	—	51	272	9	323	21
157. Diseases of Joints— Arthritis	—	2	—	2	—	2	5	—	7	—	—	20	—	20	—	22	485	6	507	17
Synovitis	—	5	—	5	—	—	1	—	1	—	—	16	—	16	—	11	317	—	328	5
158. Other Diseases of Bones or Organs of Locomotion	—	13	—	13	1	—	25	—	25	2	2	137	—	139	2	10	663	14	673	7
XI.—MALFORMATIONS																				
159. Malformations— Hydrocephalus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—
Hypospadias	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spina Bifida	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Others	—	—	—	—	—	—	2	—	2	—	—	3	—	3	—	—	4	—	4	—
XII.—DISEASES OF INFANCY																				
160. Congenital Debility	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	33	11	33	1
161. Premature Birth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	63	24	64	—
162. Other Affections of Infancy	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	3	274	66	277	10
Infantile Œdema	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	48	5	53	1
163. Infant Neglect (Infants of three months or over)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	100	17	104	4
XIII.—AFFECTIONS OF OLD AGE																				
164. Senility	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	23	4	24	1
Senile Dementia	—	—	—	—	—	—	—	—	—	—	—	3	1	3	—	—	4	2	4	—

RETURN OF DISEASES—IN-PATIENTS—(*Contd.*)

DISEASES	EUROPEAN OFFICIALS					EUROPEAN GENERAL POPULATION					ASIATIC GENERAL POPULATION (including OFFICIALS)					NATIVE GENERAL POPULATION (including OFFICIALS)				
	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945	Cases remaining in Hospital from previous year 1944	Total Admission	Total Deaths	Total Cases Treated	Remaining in Hospital at end of year 1945
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES																				
165. Suicide by Poisoning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
166. Corrosive Poisoning (Intentional)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
167. Suicide by Gas Poisoning ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
167. Suicide by Hanging or Strangulation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
169. Suicide by Drowning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
170. Suicide by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
171. Suicide by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
172. Suicide by Jumping from a Height	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
173. Suicide by Crushing (Attempted)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	2
174. Other Suicides (Attempted) ..	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—
175. Food Poisoning	—	—	—	—	—	—	—	—	—	—	—	3	—	3	1	—	117	—	117	—
Botulism	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
176. Attacks of Poisonous Animals..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43	1	43	3
Snake Bite	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	3	149	1	152	2
Insect Bite	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	48	1	49	—
177. Other Accidental Poisonings ..	—	—	—	—	—	—	4	—	4	—	—	—	—	—	—	2	48	2	50	1
178. Burns (by Fire)	—	—	—	—	—	—	1	—	1	—	1	29	2	30	2	60	946	128	1,006	64
179. Burns (other than by Fire) ..	—	1	—	1	—	—	—	—	—	—	—	4	—	4	—	9	297	11	306	11
180. Suffocation (Accidental) ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—
181. Poisoning by Gas (Accidental)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	4	5	—
182. Drowning (Accidental) ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
183. Wounds (by Firearms, War excepted)	—	—	—	—	—	—	5	1	5	—	—	2	—	2	—	1	17	1	18	—
184. Wounds (by Cutting or Stabbing Instruments)	—	3	—	3	—	1	8	—	9	—	—	33	—	33	1	32	1,700	29	1,732	74
185. Wounds (by Fall)	—	8	—	8	—	—	11	—	11	—	1	5	—	6	—	25	318	3	343	16
186. Wounds (in Mines or Quarries)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
187. Wounds (by Machinery) ..	—	1	—	1	—	—	—	—	—	—	1	2	—	3	—	12	191	4	203	10
188. Wounds (Crushing, *e.g.*, Railway Accidents, etc.)	—	2	1	2	—	—	1	—	1	—	—	7	—	7	—	—	65	1	65	7
189. Injuries Inflicted by Animals, Bites, Kicks, etc.	—	1	—	1	—	—	2	—	2	—	—	1	—	1	—	25	412	11	437	11
190. Wounds Inflicted on Active Service	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—

191. Executions of Civilians by Belligerents	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
192. A.—Over fatigue	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.—Hunger or Thirst	—	4	—	4	—	—	—	—	—	—	—	—	—	—	—	11	118	5	129	11
193. Exposure to Cold, Frostbite, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
194. Exposure to Heat—																				
Heatstroke	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—	—	—
Sunstroke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
195. Lightning Stroke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	1	10	1
196. Electric Shock	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—	—	1	—	1	—
197. Murder by Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
198. Murder by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	—
199. Murder by other means ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
200. Infanticide (Murder of an Infant under one year)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
201. A.—Dislocation..	—	1	—	1	—	—	12	—	12	1	—	2	—	2	—	3	166	1	169	7
B.—Sprain	1	33	—	34	—	—	2	—	2	—	2	37	—	39	1	7	206	—	213	9
C.—Fracture	—	18	—	18	—	1	81	1	82	4	6	60	6	66	1	76	1,595	66	1,671	103
202. Other External Injuries ..	—	261	—	261	—	—	42	—	42	—	8	370	—	378	1	111	4,375	25	4,486	186
203. Deaths by Violence of Unknown Cause	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	3	—
XV.—ILL-DEFINED DISEASES																				
204. Sudden Death (Cause Unknown)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11	11	11	—
205. A.—Diseases not already Specified or Ill-defined—																				
Ascites	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	100	11	102	4
Œdema	—	—	—	—	—	—	1	—	1	—	—	1	1	1	—	1	119	19	120	2
Asthenia	—	2	—	2	—	1	7	—	8	—	—	4	—	4	—	2	184	20	186	1
Shock	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	12	6	12	—
Hyperpyrexia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49	—	49	—
Others	—	80	—	80	1	2	102	1	104	2	4	60	—	64	—	39	901	55	940	58
B.—Malingering	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41	—	41	—
XVI.—DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED TEN DEATHS—																				
GRAND TOTAL ..	13	987	8	1,000	10	52	2,276	40	2,328	62	114	6,882	77	6,996	93	3,272	114,351	4,799	117,623	3,619

TABLE V

COLONY AND PROTECTORATE OF KENYA

RETURN OF DISEASES (Out-Patients)

NUMBERS TREATED DURING THE YEAR 1945

DISEASES	European Officials			European General Population			Asiatic General Population (including Officials)			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
I.—Epidemic, Endemic and Infectious Diseases												
1. Enteric Group—												
(a) Typhoid Fever	—	—	—	—	—	—	1	—	1	—	—	—
(b) Paratyphoid A	—	—	—	—	—	—	—	—	—	—	—	—
(c) Paratyphoid B	—	—	—	—	—	—	—	—	—	—	—	—
(d) Type not defined	—	—	—	—	—	—	—	—	—	—	—	—
2. Typhus	—	—	—	—	—	—	—	—	—	—	—	—
3. Relapsing Fever	—	—	—	—	—	—	—	—	—	64	27	91
4. Undulant Fever	—	—	—	—	—	—	—	—	—	—	—	—
5. Malaria—												
(a) Tertian	26	4	30	3	8	11	115	39	154	1,419	494	1,913
(b) Quartan	—	—	—	—	—	—	8	4	12	353	224	577
(c) Aestivo-autumnal	27	6	33	36	31	67	261	80	341	6,914	3,624	10,538
(d) Clinical	76	8	84	39	29	68	916	435	1,351	30,133	16,651	46,784
(e) Cachexia	—	1	1	1	—	1	—	—	—	508	243	751
(f) Blackwater	—	—	—	—	—	—	—	—	—	—	—	—
6. Smallpox	—	—	—	—	—	—	1	—	1	17	14	31
Alastrim	—	—	—	—	—	—	—	—	—	5	—	5
7. Measles	1	—	1	1	2	3	28	11	39	719	508	1,227
8. Scarlet Fever	—	—	—	1	1	2	—	—	—	—	—	—
9. Whooping Cough	2	—	2	15	20	35	131	10	141	1,511	2,369	3,880
10. Diphtheria	2	—	2	2	2	4	—	—	—	—	—	—
11. Influenza	142	38	180	67	47	114	791	147	938	11,846	3,328	15,174
12. Miliary Fever	—	—	—	—	—	—	—	—	—	—	—	—
13. Mumps	—	—	—	1	—	1	14	2	16	338	183	521
14. Cholera	—	—	—	—	—	—	—	—	—	—	—	—
15. Epidemic Diarrhœa	—	—	—	—	—	—	—	—	—	100	46	146
16. Dysentery—												
(a) Amœbic	14	3	17	5	7	12	36	9	45	1,648	890	2,538
(b) Bacillary	—	—	—	3	1	4	10	21	31	416	368	785
(c) Undefined or due to other causes	3	—	3	3	7	10	52	18	70	1,521	646	2,167

17. Plague—												
(*a*) Bubonic	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Pneumonic	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Septicæmic	—	—	—	—	—	—	—	—	—	—	—	—
(*d*) Undefined	—	—	—	—	—	—	—	—	—	—	—	—
18. Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—
19. Spirochætosis ictero-hæmorrhagica	—	—	—	—	—	—	—	—	—	—	—	—
20. Leprosy	—	—	—	—	—	—	—	—	—	58	27	85
21. Erysipelas	—	—	—	—	—	—	—	—	—	5	—	5
22. Acute Poliomyelitis	—	—	—	1	—	1	—	—	—	7	4	11
23. Encephalitis Lethargica	—	—	—	5	4	9	—	—	—	—	—	—
24. Epidemic Cerebro-spinal Fever . .	—	—	—	—	—	—	—	—	—	14	9	23
25. Other Epidemic Diseases—												
(*a*) Rubeola (German Measles)	—	—	—	2	—	2	—	—	—	—	—	—
(*b*) Varicella (Chicken-pox) . .	1	—	1	5	8	13	4	—	4	382	126	508
(*c*) Kala-azar	1	—	1	—	—	—	—	—	—	—	—	—
(*d*) Phlebotomus Fever . .	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Dengue	—	—	—	—	—	—	—	—	—	—	—	—
(*f*) Epidemic Dropsy	—	—	—	—	—	—	—	—	—	—	—	—
(*g*) Yaws	—	—	—	—	—	—	3	—	3	4,702	4,586	9,288
(*h*) Trypanosomiasis	—	—	—	—	—	—	—	—	—	3	6	9
Others	—	—	—	2	—	2	—	—	—	—	—	—
26. Glanders	—	—	—	—	—	—	—	—	—	—	—	—
27. Anthrax	—	—	—	—	—	—	—	—	—	94	50	144
28. Rabies	—	—	—	—	—	—	—	—	—	—	35	35
29. Tetanus	—	—	—	—	—	—	—	—	—	4	1	5
30. Mycosis	—	—	—	—	—	—	—	—	—	—	—	—
31. Tuberculosis, Pulmonary and Laryngeal	2	—	2	—	1	1	1	3	4	335	216	551
32. Tuberculosis of the Meninges or Central Nervous System . .	—	—	—	—	—	—	—	—	—	—	1	1
33. Tuberculosis of the Intestines or Peritoneum	—	—	—	—	—	—	—	—	—	—	—	—
34. Tuberculosis of the Vertebral Column	—	—	—	—	—	—	1	—	1	8	5	13
35. Tuberculosis of Bones and Joints	—	—	—	1	—	1	2	1	3	21	7	28
36. Tuberculosis of Other Organs—												
(*a*) Skin or Subcutaneous Tissue (Lupus)	—	—	—	—	1	1	—	—	—	1	2	3
(*b*) Bones	—	—	—	1	—	1	—	—	—	8	6	14
(*c*) Lymphatic System	—	—	—	—	—	—	—	—	—	206	134	340
(*d*) Genito-urinary	1	—	1	—	—	—	—	—	—	—	—	—
(*e*) Other Organs	—	—	—	—	—	—	1	—	1	42	65	107
37. Tuberculosis Disseminated—												
(*a*) Acute	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Chronic	—	—	—	—	—	—	—	—	—	—	—	—
38. Syphilis—												
(*a*) Primary	2	—	2	16	—	16	3	—	3	4,574	2,342	6,916
(*b*) Secondary	1	—	1	—	—	—	2	—	2	1,639	1,102	2,741
(*c*) Tertiary	—	—	—	—	—	—	—	1	1	616	483	1,099
(*d*) Hereditary	—	—	—	—	—	—	—	—	—	120	73	193
(*e*) Period not indicated . .	—	—	—	1	—	1	—	1	1	468	116	584

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIATIC GENERAL POPULATION (including OFFICIALS)			NATIVE GENERAL POPULATION (including OFFICIALS)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
I.—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES—(*Contd.*)												
39. Soft Chancre	—	—	—	5	—	5	2	—	2	147	—	147
40. A.—Gonorrhœa and its Complications	1	—	1	10	—	10	17	3	20	4,122	1,075	5,197
B.—Gonorrhœal Ophthalmia ..	—	—	—	—	—	—	—	—	—	8	11	19
C.—Gonorrhœal Arthritis ..	—	—	—	—	—	—	—	—	—	123	60	183
D.—Granulomo Venereum ..	—	—	—	—	—	—	—	—	—	2	1	3
41. Septicæmia	—	—	—	—	—	—	—	—	—	—	—	—
42. Other Infectious Diseases ..	—	—	—	1	—	1	—	—	—	10	1	11
II.—GENERAL DISEASES NOT MENTIONED ABOVE												
43. Cancer or other Malignant Tumours of the Buccal Cavity	—	—	—	—	—	—	—	—	—	—	1	1
44. Cancer or other Malignant Tumours of the Stomach or Liver ..										1	—	1
45. Cancer or other Malignant Tumours of the Peritoneum Intestines, Rectum	—	—	—	2	—	2	—	—	—	1	—	1
46. Cancer or other Malignant Tumours of the Female Genital Organs ..	—	—	—	—	—	—	—	—	—	—	—	—
47. Cancer or other Malignant Tumours of the Breast	—	—	—	—	9	9	—	—	—	—	—	—
48. Cancer or other Malignant Tumours of the Skin	—	—	—	—	1	1	—	—	—	2	3	5
49. Cancer or other Malignant Tumours of Organs not Specified ..	—	—	—	—	4	4	—	—	—	4	2	6
50. Tumours, Non-malignant ..	36	11	47	17	49	66	5	11	16	290	109	399
51. Acute Rheumatism	22	3	25	12	19	31	96	27	123	2,158	1,443	3,601
52. Chronic Rheumatism	49	22	71	9	26	35	91	115	206	4,988	2,676	7,664
53. Scurvy (including Barlow's Disease)	—	—	—	1	—	1	—	1	1	127	46	173
54. Pellagra	—	—	—	—	—	—	1	—	1	84	57	141
55. Beri-beri	—	—	—	—	—	—	—	—	—	3	6	9
56. Rickets	—	—	—	—	—	—	—	—	—	10	5	15
57. Diabetes (not including Insipidus)	13	8	21	4	1	5	10	11	21	2	1	3
58. Anæmia—												
(*a*) Pernicious	3	3	6	—	1	1	66	3	69	48	14	62
(*b*) Other Anæmias and Chlorosis	3	6	9	2	6	8	34	89	123	590	465	1,055
59. Diseases of the Pituitary Body ..	—	1	1	—	—	—	—	—	—	—	—	—
60. Diseases of the Thyroid Gland—												
(*a*) Exophthalmic Goitre ..	—	1	1	—	2	2	—	1	1	2	2	4
(*b*) Other Diseases of the Thyroid Gland, Myxœdema	—	2	2	—	17	17	—	—	—	—	3	3

61. Diseases of the Para-Thyroid Glands	—	—	—	—	—	—	—	—	—	—	1	1
62. Diseases of the Thymus	—	—	—	—	—	—	—	—	—	—	—	—
63. Diseases of the Supra-Renal Glands	—	3	3	—	—	—	—	—	—	110	8	118
64. Diseases of the Spleen	—	—	—	1	—	1	21	7	28	717	292	1,009
65. Leukæmia—												
(*a*) Leukæmia	—	—	—	—	—	—	—	—	—	—	10	10
(*b*) Hodgkin's Disease	—	—	—	—	—	—	—	—	—	—	—	—
66. Alcoholism	—	—	—	—	1	1	—	—	—	264	—	264
67. Chronic Poisoning by Mineral Substances (Lead, Mercury, etc.)	—	—	—	—	—	—	—	—	—	3	4	7
68. Chronic Poisoning by Organic substances (Morphia, Cocaine, etc.)	—	—	—	—	—	—	—	—	—	1	—	1
69. Other General Diseases—												
Auto-intoxication	—	—	—	—	—	—	—	—	—	—	—	—
Purpura Hæmorrhagica ..	—	—	—	—	—	—	—	—	—	—	—	—
Hæmophilia	—	—	—	—	—	—	—	—	—	—	—	—
Diabetes Insipidus	—	—	—	—	—	—	1	—	1	—	—	—
III.—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES												
70. Encephalitis (not including Encephalitis Lethargica) ..	—	—	—	—	—	—	—	—	—	—	—	—
71. Meningitis (not including Tuberculosis Meningitis or Cerebrospinal Meningitis)	—	—	—	—	—	—	—	—	—	2	—	2
72. Locomotor Ataxia	—	—	—	—	—	—	—	—	—	1	—	1
73. Other Affections of the Spinal Cord	—	—	—	—	—	—	—	—	—	—	4	4
74. Apoplexy—												
(*a*) Hæmorrhage	—	—	—	—	1	1	—	—	—	2	14	16
(*b*) Embolism	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Thrombosis	1	—	1	—	—	—	—	—	—	—	—	—
75. Paralysis—												
(*a*) Hemiplegia	—	—	—	—	—	—	1	—	1	3	1	4
(*b*) Other Paralyses	—	—	—	—	—	—	—	1	1	56	16	72
76. General Paralysis of the Insane ..	—	—	—	—	—	—	—	4	4	2	1	3
77. Other Forms of Mental Alienation	1	—	1	—	1	1	1	2	3	66	1	67
78. Epilepsy	—	—	—	6	2	8	3	4	7	125	34	159
79. Eclampsia Convulsions (Non-puerperal) 5 years or over ..	—	—	—	—	—	—	—	—	—	1	—	1
80. Infantile Convulsions	—	—	—	—	—	—	2	—	2	1	—	1
81. Chorea	—	—	—	1	—	1	—	1	1	2	—	2
82. A.—Hysteria	—	—	—	1	5	6	2	16	18	2	11	13
B.—Neuritis	24	5	29	14	20	34	158	140	298	1,161	282	1,443
C.—Neurasthenia	35	8	43	13	19	32	104	23	127	260	48	308
83. Cerebral Softening	—	—	—	—	—	—	—	—	—	—	—	—
84. Other Affections of the Nervous System, such as Paralysis Agitans	11	4	15	3	6	9	8	5	13	3,043	5	3,048
85. Affections of the Organs of Vision—												
(*a*) Conjunctivitis	14	3	17	16	14	30	269	310	579	10,660	8,194	18,854
(*b*) Trachoma	—	—	—	—	—	—	13	22	35	778	634	1,413

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	European Officials			European General Population			Asiatic General Population (including Officials)			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
III.—Affections of the Nervous System and Organs of the Senses—(*Contd.*)												
85. Affections of the Organs of Vision—(*Contd.*)												
(*c*) Tumours of the Eye ..	—	—	—	—	—	—	3	2	5	10	4	14
(*d*) Other Affections of the Eye	27	—	27	13	20	33	156	98	254	3,130	2,401	5,531
86. Affections of the Ear or Mastoid Sinus	95	20	115	82	92	174	268	221	489	7,686	4,270	11,956
IV.—Affections of the Circulatory System												
87. Pericarditis	—	—	—	—	1	1	—	—	—	—	—	—
88. Acute Endocarditis or Myocarditis	—	—	—	—	—	—	—	—	—	7	—	7
89. Angina Pectoria	2	—	2	2	—	2	—	—	—	1	—	1
90. Other Diseases of the Heart—												
(*a*) Valvular—												
Mitral	1	—	1	2	1	3	—	4	4	15	150	165
Aortic	—	—	—	—	—	—	—	—	—	6	2	8
Tricuspid	—	—	—	—	—	—	—	—	—	—	—	—
Pulmonary	—	—	—	—	—	—	—	—	—	—	—	—
(*b*) Myocarditis	3	2	5	4	4	8	—	—	—	3	—	3
Not Specified	2	—	2	3	1	4	1	11	12	7	7	14
91. Diseases of the Arteries—												
(*a*) Aneurism	2	—	2	—	—	—	—	—	—	—	—	—
(*b*) Arterio-Sclerosis	6	1	7	—	—	—	—	1	1	—	—	—
(*c*) Other Diseases	—	1	1	1	7	8	—	—	—	—	—	—
92. Embolism or Thrombosis (Non-cerebral)	—	—	—	2	1	3	—	—	—	1	—	1
93. Diseases of the Veins—												
Hæmorrhoids	24	1	25	3	14	17	31	2	33	55	28	83
Varicose Veins	7	3	10	3	9	12	—	1	1	115	—	115
Phlebitis	2	1	3	2	1	3	1	—	1	114	4	118
94. Diseases of the Lymphatic System—												
Lymphangitis	1	—	1	2	5	7	1	35	36	194	24	218
Lymphadenitis, Bubo (Non-specific)	11	2	13	14	10	24	24	9	33	1,239	481	1,720
95. Hæmorrhage of Undetermined Cause	—	—	—	—	1	1	3	—	3	9	10	19
96. Other Affections of the Circulatory System	12	2	14	5	11	16	15	5	20	1	1	2

V.—AFFECTIONS OF THE RESPIRATORY SYSTEM												
97. Diseases of the Nasal Passages—												
Adenoids	47	16	63	16	23	39	10	—	10	2,340	2,252	4,592
Polypus	—	—	—	—	—	—	—	—	—	11	1	12
Rhinitis	—	1	1	7	6	13	9	—	9	81	47	128
Coryza	67	16	83	65	71	136	1,056	1,050	1,106	25,399	8,097	33,496
98. Affections of the Larynx—												
Laryngitis	20	5	25	22	21	43	20	34	54	1,225	584	1,809
99. Bronchitis—												
(a) Acute	23	11	34	19	18	37	478	707	1,185	28,879	17,384	46,263
(b) Chronic	7	3	10	5	6	11	445	160	605	21,959	9,279	31,238
100. Broncho-Pneumonia	1	—	1	4	2	6	20	13	33	523	368	891
101. Pneumonia—												
(a) Lobar	2	—	2	1	—	1	14	6	20	315	186	501
(b) Unclassified	2	—	2	—	1	1	10	3	13	79	202	281
102. Pleurisy, Empyema	5	2	7	2	4	6	5	3	8	163	65	228
102. Congestion of the Lungs	—	—	—	—	—	—	—	—	—	28	10	38
104. Gangrene of the Lungs	—	—	—	—	—	—	—	—	—	—	—	—
105. Asthma	11	1	12	10	10	20	140	107	247	1,045	327	1,372
106. Pulmonary Emphysema	—	—	—	2	—	2	—	—	—	—	—	—
107. Other Affections of the Lungs—												
Pulmonary Spirochætosis	1	—	1	2	—	2	28	1	29	380	—	380
VI.—DISEASES OF THE DIGESTIVE SYSTEM												
108. A.—Diseases of Teeth or Gums—												
Caries	9	—	9	30	33	63	166	108	274	9,232	4,905	14,137
Pyorrhœa, etc.	6	1	7	1	—	1	28	3	31	1,505	761	2,266
B.—Other Affections of the Mouth	—	—	—	5	3	8	28	11	39	694	409	1,103
Stomatitis	2	3	5	5	5	10	66	120	186	1,083	908	1,991
Glossitis, etc.	1	1	2	1	—	1	—	3	3	44	24	68
109. Affections of the Pharynx or Tonsils												
Tonsillitis	38	16	54	116	103	219	249	404	653	4,572	2,719	7,291
Pharyngitis	39	8	47	24	30	54	276	91	367	3,442	922	4,364
110. Affections of the Œsophagus	1	—	1	1	—	1	—	—	—	—	—	—
111. A.—Ulcer of the Stomach	7	—	7	2	1	3	1	—	1	—	—	—
B.—Ulcer of the Duodenum	29	—	29	6	—	6	1	—	1	—	—	—
112. Other Affections of the Stomach	1	1	2	1	2	3	—	—	—	—	—	—
Gastritis	28	6	34	16	18	34	141	34	175	952	608	1,560
Dyspepsia	89	16	105	46	53	99	296	255	551	7,154	3,689	10,843
113. Diarrhœa and Enteritis—												
Under two years	7	—	7	6	5	11	161	410	571	3,460	4,145	7,605
114. Diarrhœa and Enteritis—												
Two years and over	85	17	102	41	61	102	152	136	288	6,157	3,263	9,420
Colitis	11	3	14	6	10	16	128	14	142	1,536	1,078	2,614
Ulceration	1	—	1	—	—	—	—	—	—	—	1	1

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIATIC GENERAL POPULATION (including OFFICIALS)			NATIVE GENERAL POPULATION (including OFFICIALS)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
VI.—DISEASES OF THE DIGESTIVE SYSTEM.—(*Contd.*)												
114A. Sprue	—	—	—	—	—	—	3	2	5	—	508	508
115. Ankylostomiasis	2	1	3	1	2	3	—	1	1	1,298	794	2,092
116. Diseases due to Intestinal Parasites—												
(*a*) Cestoda (Tænia)	2	2	4	3	2	5	—	—	—	19,751	6,603	26,354
(*b*) Trematoda (Flukes).. ..	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Nematoda (other than Ankylostoma)	—	—	—	1	—	1	—	—	—	25	41	66
Ascaris	—	—	—	1	1	2	28	20	48	6,140	6,466	12,606
Trichocephalus dispar. ..	—	—	—	—	—	—	—	—	—	63	40	103
Trichina	—	—	—	—	—	—	—	—	—	—	2	2
Dracunculus	—	—	—	—	—	—	—	—	—	—	—	—
Strongylus	—	—	—	—	—	—	—	—	—	13	6	19
Oxyuris	—	—	—	1	1	2	—	2	2	80	65	145
(*d*) Coccidia	—	—	—	—	—	—	—	—	—	—	—	—
(*e*) Other Parasites	—	—	—	2	—	2	3	—	3	291	292	583
(*f*) Unclassified	—	—	—	—	—	—	2	4	6	216	66	282
117. Appendicitis	12	4	16	16	13	29	2	4	6	1	—	1
118. Hernia	14	—	14	21	7	28	3	3	6	125	1	126
119. A.—Affections of the Anus, Fistula etc.	4	1	5	6	9	15	2	1	3	438	103	541
B.—Other Affections of the Intestines	3	3	6	2	—	2	4	—	4	7	3	10
Enteroptosis..	—	—	—	—	—	—	—	—	—	17	4	21
Constipation..	9	1	10	10	10	20	538	261	799	24,307	14,387	38,694
120. Acute Yellow Atrophy of the Liver	—	—	—	—	—	—	—	—	—	—	—	—
121. Hydatid of the Liver	—	—	—	—	—	—	—	—	—	—	—	—
122. Cirrhosis of the Liver—												
(*a*) Alcholic	—	—	—	—	—	—	—	—	—	22	—	22
(*b*) Other Forms	1	—	1	—	2	2	2	—	2	7	67	74
123. Biliary Calculus	5	1	6	5	10	15	—	2	2	—	—	—
124. Other Affections of the Liver ..	—	—	—	14	—	14	—	—	—	—	—	—
Abscess	—	—	—	—	—	—	—	—	—	435	7	442
Hepatitis	5	1	6	3	5	8	19	15	34	155	184	339
Cholecystitis	4	2	6	—	9	9	3	7	10	—	—	—
Jaundice..	1	—	1	—	2	2	2	4	6	1	66	67
125. Diseases of the Pancreas	—	—	—	—	—	—	1	—	1	—	—	—
126. Peritonitis (of Unknown Cause) ..	—	—	—	—	—	—	—	—	—	—	4	4
127. Other Affections of the Digestive System	6	—	6	3	8	11	26	10	36	179	16	195

VII.—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)												
128. Acute Nephritis	—	—	—	—	—	—	1	—	1	18	7	25
129. Chronic Nephritis	2	—	2	—	1	1	1	8	9	23	14	37
130. A.—Chyluria	—	—	—	—	—	—	—	—	—	1	—	1
B.—Schistosomiasis	4	4	8	—	—	—	2	—	2	1,212	288	1,500
131. Other Affections of the Kidneys..	3	—	3	7	3	10	2	—	2	4	—	4
Pyelitis	3	10	13	1	14	15	8	5	13	118	239	357
132. Urinary Calculus	12	3	15	14	2	16	—	1	1	12	13	25
133. Diseases of the Bladder	2	1	3	1	1	2	—	—	—	20	5	25
Cystitis	8	3	11	5	22	27	9	18	27	191	137	328
134. Diseases of the Urethra—												
(*a*) Stricture	—	—	—	11	—	11	—	—	—	203	—	203
(*b*) Other	8	—	8	1	1	2	4	—	4	549	41	590
135. Diseases of the Prostate—												
Hypertrophy	—	—	—	—	—	—	—	—	—	1	—	1
Prostatitis	5	—	5	5	—	5	—	—	—	2	—	2
136. Diseases (Non-venereal) of the Genital Organs of Man—												
Epididymitis	—	—	—	1	—	1	1	—	1	25	—	25
Orchitis	2	—	2	1	—	1	6	—	6	474	—	474
Hydrocele	—	—	—	2	—	2	4	—	4	126	—	126
Ulcer of Penis	—	—	—	1	—	1	6	—	6	169	—	169
Others	—	—	—	6	—	6	1	—	1	114	—	114
137. Cysts or other Malignant Tumours of the Ovaries	—	5	5	—	6	6	—	—	—	—	9	9
138. Salpingitis	—	4	4	—	4	4	—	6	6	—	—	—
Abscess of the Pelvis	—	—	—	—	2	2	—	—	—	—	235	235
139. Uterine Tumours (Non-malignant)	—	7	7	—	10	10	—	1	1	—	26	26
140. Uterine Hæmorrhage (Non-puerperal)	—	24	24	—	49	49	—	11	11	—	25	25
141. A.—Metritis	—	1	1	—	8	8	—	3	3	—	42	42
B.—Other Affections of the Female Genital Organs	—	31	31	—	77	77	—	5	5	—	50	50
Displacement of Uterus ..	—	3	3	—	29	29	—	2	2	—	7	7
Amenorrhœa	—	15	15	—	10	10	—	6	6	—	87	87
Dysmenorrhœa	—	18	18	—	27	27	—	15	15	—	455	455
Leucorrhœa	—	1	1	—	8	8	—	8	8	—	80	80
142. Diseases of the Breast (Non-peurperal)	—	—	—	—	2	2	—	1	1	—	2	2
Mastitis	—	8	8	—	20	20	—	18	18	37	517	554
Abscess of Breast	—	2	2	—	2	2	—	—	—	3	150	153
VIII.—PUERPERAL STATE												
143. A.—Normal Labour	—	—	—	—	2	2	—	44	44	—	208	208
B.—Accidents of Pregnancy—	—	—	—	—	—	—	—	2	2	—	8	8
(*a*) Abortion	—	2	2	—	9	9	—	10	10	—	356	356
(*b*) Ectopic Gestation	—	—	—	—	—	—	—	—	—	—	—	—
(*c*) Other Accidents of Pregnancy	—	—	—	—	13	13	—	11	11	—	438	438
144. Puerperal Hæmorrhage	—	—	—	—	—	—	—	1	1	—	1	1

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	European Officials			European General Population			Asiatic General Population (including Officials)			Native General Population (including Officials)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
VIII.—Puerperal State—(*Contd.*)												
145. Other Accidents of Parturition ..	—	—	—	—	—	—	—	1	1	—	—	—
146. Puerperal Septicæmia	—	—	—	—	—	—	—	—	—	—	—	—
147. Phlegmasia Dolens	—	—	—	—	—	—	—	—	—	—	—	—
148. Puerperal Eclampsia	—	—	—	—	—	—	—	1	1	—	—	—
149. Sequelæ of Labour	—	1	1	—	—	—	—	—	—	—	9	9
150. Puerperal Affections of the Breast	—	—	—	—	—	—	—	—	—	—	3	3
IX.—Affections of the Skin and Cellular Tissues												
151. Gangrene	—	—	—	—	—	—	—	1	1	124	322	456
152. Boil	37	9	46	48	27	75	232	322	554	3,296	780	4,076
Carbuncle	2	—	2	2	4	6	—	—	—	50	23	73
153. Abscess	13	4	17	43	26	69	120	70	190	6,078	1,518	7,596
Whitlow	3	2	5	11	7	18	9	41	50	685	230	915
Cellulitis	26	7	33	19	27	46	64	24	88	4,487	1,661	6,148
154. A.—Tinea	2	1	3	12	8	20	17	39	56	814	357	1,171
B.—Scabies	1	—	1	1	—	1	83	131	214	11,553	6,000	17,553
155. Other Diseases of the Skin—												
Erythema	5	—	5	2	5	7	10	38	48	41	53	94
Urticaria	17	4	21	14	11	25	114	80	194	1,111	447	1,558
Eczema	8	3	11	8	15	23	113	75	188	1,145	641	1,786
Herpes	6	3	9	2	2	4	11	11	22	444	166	610
Psoriasis	2	1	3	—	3	3	2	6	8	125	51	176
Elephantiasis	—	—	—	—	1	1	—	—	—	125	73	198
Myiasis	—	—	—	—	—	—	—	—	—	214	176	390
Chigoes	5	2	7	2	3	5	8	7	15	1,147	612	1,759
Cutaneous Leishmaniasis ..	—	—	—	—	—	—	—	—	—	—	—	—
Others	95	22	117	95	92	187	152	120	272	3,058	1,731	4,789
Ulcers	15	1	16	8	3	11	287	167	454	39,375	16,913	56,288
X.—Diseases of Bones and Organs of Locomation (Other than Tuberculosis)												
156. Diseases of Bones—												
Osteitis	—	—	—	3	2	5	2	4	6	75	21	96
157. Diseases of Joints—												
Arthritis	26	5	31	30	19	49	39	14	53	1,659	680	2,339
Synovitis	14	—	14	9	2	11	30	1	31	1,178	286	1,464
158. Other Diseases of Bones or Organs of Locomotion	58	17	75	41	26	67	161	191	352	13,333	5,327	18,660

XI.—MALFORMATIONS												
159. Malformations—												
Hydrocephalus	—	—	—	—	—	—	—	—	—	—	—	—
Hypospadias	—	—	—	—	—	—	—	—	—	—	—	—
Spina Bifida	—	—	—	—	—	—	—	—	—	—	—	—
Others	5	3	8	8	7	15	—	—	—	230	72	302
XII.—DISEASES OF INFANCY												
160. Congenital Debility	—	—	—	—	—	—	—	5	5	17	10	27
161. Premature Birth	—	—	—	—	—	—	—	—	—	—	—	—
162. Other Affections of Infancy ..	—	—	—	1	1	2	2	5	7	90	71	161
Infantile Œdema	—	—	—	—	—	—	—	—	—	27	30	57
163. Infant Neglect (Infants of three months or over)	—	—	—	—	—	—	—	—	—	120	142	262
XIII.—AFFECTIONS OF OLD AGE												
164. Senility	—	—	—	—	—	—	—	—	—	15	—	15
Senile Dementia	—	—	—	—	—	—	—	—	—	58	78	136
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES												
165. Suicide by Poisoning	—	—	—	—	—	—	—	—	—	—	—	—
166. Corrosive Poisoning (Intentional)	—	—	—	—	—	—	—	—	—	—	—	—
167. Suicide by Gas Poisoning ..	—	—	—	—	—	—	—	—	—	4	—	4
168. Suicide by Hanging or Strangulation	—	—	—	—	—	—	—	—	—	—	—	—
169. Suicide by Drowning	—	—	—	—	—	—	—	—	—	—	—	—
170. Suicide by Firearms	—	—	—	—	—	—	—	—	—	—	—	—
171. Suicide by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—
172. Suicide by Jumping from a Height	—	—	—	—	—	—	—	—	—	—	—	—
173. Suicide by Crushing	—	—	—	—	—	—	—	—	—	—	—	—
174. Other Suicides	—	—	—	—	—	—	2	—	2	—	—	—
175. Food Poisoning—												
Botulism	3	—	3	1	—	1	2	1	3	59	33	92
176. Attacks of Poisonous Animals—												
Snake Bite	1	—	1	1	—	1	5	—	5	114	35	149
Insect Bite	7	2	9	3	10	13	9	32	41	271	98	369
177. Other Accidental Poisonings ..	1	—	1	1	—	1	—	—	—	13	3	16
178. Burns (by Fire)	1	4	5	3	3	6	103	145	248	3,069	1,809	4,878
179. Burns (other than by Fire) ..	1	—	1	—	1	1	34	10	44	609	309	918
180. Suffocation (Accidental)	—	—	—	—	—	—	—	—	—	—	—	—
181. Poisoning by Gas (Accidental) ..	—	—	—	—	—	—	—	—	—	11	5	16
182. Drowning (Accidental)	—	—	—	—	—	—	—	—	—	—	—	—
183. Wounds (by Firearms, war excepted)	—	—	—	1	2	3	3	—	3	—	—	—
184. Wounds (by Cutting or Stabbing Instruments)	16	1	17	6	6	12	47	1	48	5,155	1,370	6,525
185. Wounds (by Fall)	17	4	21	25	12	37	29	103	132	2,026	671	2,697
186. Wounds (in Mines or Quarries) ..	—	—	—	—	—	—	—	—	—	—	—	—
187. Wounds (by Machinery)	—	—	—	1	—	1	23	—	23	483	67	550

RETURN OF DISEASES—OUT-PATIENTS—(*Contd.*)

DISEASES	EUROPEAN OFFICIALS			EUROPEAN GENERAL POPULATION			ASIATIC GENERAL POPULATION (including OFFICIALS)			NATIVE GENERAL POPULATION (including OFFICIALS)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
XIV.—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—(*Contd.*)												
188. Wounds (Crushing, *e.g.* Railway Accidents, etc.)	3	—	3	1	—	1	5	—	5	51	7	58
189. Injuries Inflicted by Animals, Bites, Kicks, etc.	3	3	6	2	4	6	8	9	17	799	205	1,004
190. Wounds Inflicted on Active Service	—	—	—	—	—	—	—	—	—	—	2	2
191. Executions of Civilians by Belligerents	—	—	—	—	—	—	—	—	—	—	—	—
192. A.—Over Fatigue	—	—	—	—	—	—	—	—	—	—	—	—
B.—Hunger or Thirst	—	—	—	—	—	—	—	—	—	13	—	13
193. Exposure to Cold, Frostbite, etc.												
194. Exposure to Heat—												
Heatstroke	—	—	—	—	—	—	—	—	—	—	—	—
Sunstroke	—	—	—	—	—	—	—	—	—	4	8	12
195. Lightning Stroke	—	—	—	—	—	—	—	—	—	—	—	—
196. Electric Shock	—	—	—	—	—	—	—	—	—	2	—	2
197. Murder by Firearms	—	—	—	—	—	—	—	—	—	—	—	—
198. Murder by Cutting or Stabbing Instruments	—	—	—	—	—	—	—	—	—	—	—	—
199. Murder by other means	—	—	—	—	—	—	—	—	—	—	—	—
200. Infanticide (Murder of an Infant Under one year)	—	—	—	—	—	—	—	—	—	—	—	—
201. A.—Dislocation	1	—	1	12	2	14	13	2	15	196	115	311
B.—Sprain	58	11	69	44	39	83	318	24	142	3,057	821	3,868
C.—Fracture	58	9	67	131	89	220	9	1	10	346	80	426
202. Other External Injuries	133	14	147	158	88	246	1,330	748	2,078	36,540	9,676	46,216
203. Deaths by Violence of Unknown Cause	—	—	—	—	—	—	—	—	—	—	—	—
XV.—ILL-DEFINED DISEASES												
204. Sudden Death (Cause Unknown)	—	—	—	—	—	—	—	—	—	—	—	—
205. A.—Diseases not already specified or ill-defined—												
Ascites	—	—	—	—	—	—	—	—	—	45	32	77
Œdema	2	—	2	2	—	2	3	2	5	268	279	547
Asthenia	17	2	19	5	12	17	29	34	63	253	97	350
Shock	—	—	—	—	—	—	1	—	1	—	—	—
Hyperpyrexia	1	—	1	2	9	11	28	—	28	1,293	88	1,381
Others	698	256	954	299	521	820	413	44	457	3,397	975	4,372
B.—Malingering	—	—	—	—	—	—	—	—	—	154	24	178
XVI.—DISEASES, THE TOTAL OF WHICH HAVE NOT CAUSED TEN DEATHS . .	—	—	—	—	—	—	—	—	—	—	—	—
GRAND TOTAL . .	2,727	849	3,576	2,131	2,529	4,660	12,111	8,673	20,784	441,431	212,617	654,048

TABLE VI

METEOROLOGICAL SUMMARY FOR 1945 FOR EIGHT SELECTED STATIONS IN KENYA

Month	Temperature (of)			Relative Humidity Percentage		Rainfall (inches)		Temperature (of)			Relative Humidity Percentage		Rainfall (inches)	
	Maximum	Minimum	Mean	0830 East	1430 East	1945	Average	Maximum	Minimum	Mean	0830 East	1430 East	1945	Average
				Equator							Garissa			
January	66·5	45·7	56·1	73	44	0·20	0·75	96·5	73·4	84·9	75	46	0·06	0·06
February	69·3	46·7	58·0	65	35	0·40	1·80	97·0	73·5	85·3	73	44	0·00	0·36
March	70·8	45·9	58·3	66	32	0·13	4·01	98·6	75·4	87·0	73	47	0·02	1·14
April	71·7	47·4	59·5	67	33	0·43	6·67	99·5	76·8	88·1	69	45	0·22	2·88
May	67·4	47·9	57·7	85	49	6·44	5·58	95·7	74·8	85·2	75	52	0·00	0·40
June	61·9	48·0	54·9	83	70	8·66	4·36	90·9	70·7	80·8	68	45	0·00	0·32
July	59·4	47·1	53·3	80	75	7·59	5·65	90·3	69·7	80·0	75	44	0·00	0·14
August	59·9	46·5	53·2	78	69	7·55	7·66	90·5	69·9	80·2	76	47	0·13	0·33
September	61·5	47·2	54·3	76	70	6·23	3·55	92·1	71·0	81·5	77	50	0·00	0·31
October	64·1	46·0	55·1	78	55	1·35	1·27	95·5	73·0	84·3	76	40	0·00	1·02
November	62·5	46·8	54·7	89	65	1·79	3·65	94·1	74·4	84·3	80	52	1·47	2·19
December	63·1	45·2	54·1	79	56	2·05	1·39	94·9	73·1	84·0	79	49	1·20	3·08
Year	64·8	46·7	55·8	77	54	42·82	46·34	94·6	73·0	83·8	75	47	3·10	12·83
				Kisumu							Kitale			
January	88·1	62·5	75·3	59	39	3·14	1·39	81·1	52·3	66·7	74	37	0·14	0·67
February	88·3	64·3	76·3	63	39	1·95	3·38	82·1	53·7	67·9	70	32	1·94	1·83
March	90·5	64·3	77·4	56	33	1·97	7·57	82·8	54·1	68·5	64	33	0·07	3·25
April	88·7	65·2	76·9	68	41	3·67	6·34	84·2	56·1	70·1	68	33	0·14	5·62
May	81·1	64·5	72·8	81	59	8·33	7·56	75·7	55·8	65·7	87	67	10·84	6·33
June	80·5	62·8	71·7	81	58	6·77	3·89	73·0	54·7	63·9	89	69	4·32	4·60
July	80·4	61·3	70·9	78	56	1·68	2·55	71·1	54·0	62·5	91	70	4·41	5·83
August	80·7	61·1	70·9	76	55	7·21	3·61	71·8	53·1	62·5	89	66	9·83	6·22
September	83·7	61·3	72·5	66	50	0·63	2·71	74·1	53·0	63·5	85	70	8·48	3·89
October	86·6	62·8	74·7	60	43	2·63	1·72	77·2	53·3	65·3	72	55	1·06	3·41
November	85·9	63·0	74·5	62	42	1·39	4·73	77·2	52·9	65·1	76	49	1·45	2·20
December	86·7	61·3	74·0	55	38	1·94	3·44	77·7	50·7	64·2	71	40	1·61	1·11
Year	85·1	62·9	74·0	67	46	41·31	48·89	77·3	53·6	65·5	78	52	44·29	44.96
				Mombasa							Nairobi			
January	89·4	75·3	82·3	79	62	0·46	1·01	80·5	56·7	68·6	73	43	1·85	1·45
February	90·6	75·9	83·3	77	59	0·25	0·66	84·2	56·9	70·5	69	33	2·09	2·13
March	90·1	76·8	83·5	80	63	0·95	2·59	81·5	58·4	69·9	76	41	2·72	5·35
April	88·8	77·2	83·0	81	67	11·06	7·83	82·0	60·8	71·4	83	40	1·07	7·94
May	83·2	74·1	78·7	88	76	19·25	12·67	77·0	59·9	68·5	86	62	9·06	5·03
June	82·5	71·6	77·1	80	63	1·49	4·97	75·9	55·6	65·7	84	58	2·53	1·59
July	81·5	70·7	76·1	84	70	2·48	3·59	73·2	53·6	63·4	87	59	0·99	0·58
August	82·4	70·9	76·7	84	66	1·48	2·53	73·3	53·9	63·6	88	60	1·25	0·96
September	82·9	71·2	77·1	83	67	2·15	2·50	76·9	55·4	66·1	82	50	0·64	0·93
October	85·3	73·2	79·3	79	65	0·42	3·44	82·7	57·5	70·1	77	39	0·01	2·00
November	86·5	73·8	80·1	85	66	8·46	3·76	77·4	58·9	68·1	85	54	6·27	3·94
December	89·1	73·9	81·5	79	61	0·09	2·36	79·0	56·2	67·6	73	44	0·57	2·56
Year	86·0	73·7	79·9	82	66	48·54	47·91	78·6	57·0	67·8	80	49	29·05	34·46
				Nakuru							Voi			
January	82·9	48·3	65·6	65	30	0·31	0·67	90·3	69·8	80·1	74	41	0·32	1·35
February	85·9	48·4	67·1	65	25	0·76	1·56	93·3	69·3	81·3	74	35	0·22	1·27
March	85·8	48·2	67·0	63	25	1·21	2·61	92·2	70·1	81·1	75	37	2·04	3·00
April	86·5	50·4	68·5	62	24	0·10	5·13	91·4	70·8	81·1	75	39	1·70	3·89
May	80·3	53·8	67·1	78	48	4·21	4·49	84·5	69·0	76·7	74	50	2·25	1·22
June	76·8	53·8	65·3	87	54	7·98	3·20	84·1	65·4	74·7	65	39	0·40	0·34
July	74·3	51·1	62·7	86	56	6·48	4·34	81·9	64·1	73·0	69	41	0·00	0·12
August	73·9	51·0	62·5	85	57	5·34	4·02	82·9	64·3	73·6	70	40	0·03	0·36
September	76·2	49·9	63·1	83	55	5·46	2·59	83·3	63·9	73·6	72	42	0·30	0·50
October	78·3	47·6	62·9	79	49	1·36	2·19	89·8	66·3	78·1	66	33	0·02	0·93
November	76·1	50·4	63·3	84	55	2·30	2·48	87·7	68·0	77·9	75	45	2·51	3·83
December	79·1	46·0	62·5	73	38	0·73	1·23	89·8	69·0	79·4	76	38	0·87	5·23
Year	79·7	49·9	64·8	76	43	36·24	34·51	87·6	67·5	77·5	72	40	10·66	22·04

ANNUAL RAINFALL FOR ONE HUNDRED SELECTED STATIONS IN KENYA FOR THE YEAR 1945

	Total inches	Average inches
Central Province :—		
Embu, District Office	20·28	40·91
Donyo Sabuk Estate	29·74	31·84
Fort Hall, District Office	35·13	45·52
Githumu, A. I. Mission	44·13	58·70
Kabondori	25·64	27·78
Kangundo School	25·34	38·14
Kanziko Dispensary	11·71	30·70
Katze Dispensary	11·19	21·37
Keruguya Hospital	49·90	52·22
Kiambu, District Office	37·98	40·45
Kiambu, Kianjibbi Estate	39·99	41·21
Kikuyu, Railway Station	30·50	34·18
Kitui, District Office	37·64	40·98
Kiu, Railway Station	19·45	22·46
Konza, Railway Station	10·95	18·20
Lamuria, Sirrima Estate	36·69	26·91
Limuru, Railway Station	27·25	39·83
Machakos, District Office	19·07	36·01
Makindu, Meteorological Station	15·99	25·07
Meru, District Office	31·49	52·19
Nairobi, Railway Station	29·05	34·46
Nanyuki, Meteorological Station	26·19	26·83
Ngong, Forest Station	36·72	35·48
Nyeri, P.W.D.	34·44	36·29
Ruiru, Sukari, Ltd.	22·36	27·92
Thika, District Office	32·03	30·51
Zombe, Dispensary	14·12	36·65
Coast Province :—		
Gazi, Kenya Sugar Co., Ltd.	54·88	49·71
Kilifi, District Office	38·54	36·79
Kipini, District Office	29·01	45·99
Kwale, District Office	41·19	40·04
Lamu, Post Office	40·74	36·48
Malindi, District Office	41·87	40·22
Mombasa, Old Observatory	48·54	47·91
Ramisi, Kenya Sugar Co., Ltd.	60·82	56·47
Taveta, Sisal Estate	15·17	29·48
Voi, Meteorological Station	10·66	22·04
Wesu, Hospital	40·72	59·58
Nyanza Province :—		
Asumbi Mission	56·42	61·63
Boro Dispensary	45·29	52·58
Bunyore Dispensary	60·11	67·34
Equator, Meteorological Station	42·82	46·34
Kadimu Dispensary	33·57	34·15
Kakamega, District Office	69·05	74·83
Kamagambo School	48·81	62·05
Kericho, District Office	67·43	70·98
Kisii, District Office	57·94	67·07
Kisumu, Provincial Commissioner's Office	33·94	45·09
Litein Mission	76·01	61·81
Lumbwa, Railway Station	48·28	45·03
Nyanza Province—(*Continued*) :—		
Malakisi, Salvation Army	38·30	48·15
Masara, K. G. Syndicate	37·91	45·89
Maseno, Veterinary Station	53·87	59·40
Miwani, Railway Station	41·14	50·39
Mugunga	58·15	78·15
Muhuroni, Railway Station	43·90	62·22
Myanga, Railway Station	50·19	51·90
Nangina Mission	43·30	53·77
Nyakach Dispensary	38·99	43·06
Oyugis Dispensary	47·19	53·04
Rangala School	54·79	57·63
Songhor, Kaabirir Estate	59·59	55·98
Sotik, Monieri Estate	53·63	53·07
Rift Valley Province :—		
Cherangani, Kipkoitet Estate	48·27	41·62
Elburgon, Forest Station	36·38	41·39
Eldoret, District Office	36·20	40·63
Elmenteita, The Highlands	36·58	34·46
Gilgil, Railway Station	16·90	24·40
Hoey's Bridge, Kitani Syndicate	55·11	48·02
Kabarnet, District Office	60·01	51·32
Kapenguria, District Office	45·77	45·90
Kapsabet, District Office	56·80	61·19
Kaptagat, Forest Station	42·49	46·41
Kitale, District Office	44·29	44·96
Lugari, Railway Station	46·85	58·48
Maji Mazuri, Forest Station	42·48	47·47
Maralal, District Office	23·91	24·97
Moiben, Karuna Farm	37·97	40·26
Molo, Railway Station	34·97	51·38
Mount Elgon, Forest Station	46·35	46·02
Naivasha, Meteorological Station	22·89	23·18
Nakuru, District Office	36·24	34·51
Nakuru, Solai Mennegai	31·07	36·17
Njoro, Plant Breeding Station	34·88	35·74
Ol Joro Orok, Muturakwa Estate	44·39	48·08
Rongai, Miti Mingi Estate	33·97	34·91
Rumuruti, District Office	20·50	26·08
Subukia, Ol Momoi Estate	49·49	40·91
Tambach, District Office	37·27	45·06
Thomson's Falls, North's Estate	40·24	34·25
Turi, Home Farm	40·75	47·08
Extra Provincial Districts :—		
Garissa, District Office	3·10	12·83
Isiolo, District Office	16·51	21·49
Kajiado, District Office	15·99	18·62
Lodwar, District Office	10·21	5·43
Mandera, District Office	6·67	8·52
Marsabit, District Office	19·68	32·48
Moyale, District Office	16·43	26·12
Narok, Meteorological Station	24·19	26·66
Wajir, District Office	5·87	8·56

ANNUAL REPORT FOR 1945

DIVISION OF INSECT-BORNE DISEASES

Staff

Senior Parasitologist	1
Medical Officer	1
Senior Health Inspector	1
Senior Entomological Field Officer ...	1
Entomological Field Officers ...	4
Junior Entomological Field Officer ...	1
Tsetse Control Overseer	1
Laboratory Assistant	1
Aedes Control Overseers	2

Routine Work Carried Out at the Medical Research Laboratories

(*a*) Routine identifications of insects of medical importance were carried out at the laboratory for the whole of the Colony except for the Nyanza Province and Mombasa. The volume of work has reached such proportions that one European and two African Assistants were continuously engaged upon it.

Members of the Entomological staff stationed at Kisumu and Mombasa carry out their own identifications.

(*b*) An *Aedes aegypti* colony was maintained in order that sufficient of adult and larval forms would be available for various investigations, including testing of larvicides and insecticides.

(*c*) Several attempts have been made to raise an *A. gambiæ* colony on the same lines as the *Aedes* one, but so far with little success. Another attempt will be made during the next rainy season.

(*d*) A tick colony was established during the year. Two species, namely *O. moubata* and *O. savignyi*, are now being successfully reared and will be used in experiments in connexion with relapsing fever and in an attempt to discover an efficient insecticide.

(*e*) Data from all parts of the Colony are collected and charted in order that effects of yellow fever control measures can be easily assessed and any defects quickly noted and dealt with.

(*f*) Records of entomological specimens collected in the Colony are filed for future reference in order that distribution of vectors can be collated with outbreaks of disease. Copies of these records are sent to the place of origin as a routine measure.

Laboratory Investigations

(*a*) A number of tests were carried out in the Potter-Hocking chamber, using fourth grade pyrethrum powder in order to ascertain its insecticidal value as compared with first grade pyrethrum.

Various commercial samples of locally manufactured insecticides were also tested in this apparatus.

(*b*) Laboratory tests were also carried out on a number of oil samples in order to estimate their insecticidal value.

(*c*) A number of tests were carried out in an endeavour to discover an effective insecticide against ticks. 666 (gammexane), D.D.T. and pyrethrum powder were used. None of the insecticides achieved 100 per cent mortality. Gammexane appears to be the most promising; pyrethrum not quite so good, whilst D.D.T. appears to have little or no effect. Further tests are being carried out.

(*d*) The repellent effect of dimethyl phthalate against ticks was investigated. The small number of tests carried out indicate that this repellent is of some value against ticks (*Ornithodorus*). Tests in the field, however, showed that not only D.M.P. but all other substances except chloroform were ineffective.

(*e*) A strain of *Trypanosoma rhodesiense* was maintained in white mice for four months and was then handed to the Veterinary Research Laboratory.

Field Investigations and Surveys Carried Out During the Year

(*a*) Routine anti-malarial measures were continued with the aid of African Entomological staff at Malindi, Gedi, Kilifi, Fort Hall, Nyeri, Kisii, Kakamega, Maseno, Isiolo, Karatina and Kisumu.

(*b*) A special mosquito survey was carried out in the Nandi Reserve during the month of June in order to establish species and distributions in connexion with high altitude malaria. Typical sections of the countryside were surveyed, which included Kapsabet, Kayo, Kibiyet and Taito.

(*c*) A special survey, similar to (*b*) above was carried out in the Central Province at Thomson's Falls, Ol'Joro Orok and Rumuruti.

(*d*) A mosquito survey was carried out in Kitale Township during the last week in June and the first week in July.

(*e*) Extra African staff were seconded to Fort Hall in order to carry out extensive observations on mosquito production during the rainy reason. The observations were extended over a period of two months.

(*f*) Mosquito surveys were carried out at Tigania, Chogoria, Mumbuni and Kauwa in the Meru District.

(*g*) Observations were made throughout the year in Langata Forest and will continue until April, 1946, when two full yearly cycles will have to be completed. These observations are being made in connexion with mosquito production in a forest of low rainfall. Observations include: (*a*) a species breeding in tree holes, bamboo pots, rock holes, pools, rivers, etc.; (*b*) species caught on human bait at various houses in search of a blood meal.

(*h*) Observations were continued in Gedi Forest. They include comparison of Culicidæ breeding rates in bamboo pots in a settled area as compared with virgin forest; daily catch of adult mosquitoes on ground and on platforms. *Aedes* control measures were carried out until the end of December, when they were discontinued. Malaria control measures were carried out throughout the year and are being continued.

(*i*) Mosquito control measures were instituted at Narok during May, where an African Entomological Assistant was posted for this purpose.

(*j*) Two visits were made to Kaimosi Forest in order to discover the breeding place of *S. neavei*. The first took place in March under dry-season conditions and the second during October under rainy-season conditions. The river Siriwa was dammed and diverted at the same point on both occasions. Immature forms of *S. neavei* were not found.

(*k*) Observations were continued in the Riana-Yabi area in connexion with a bush-clearing experiment instituted by Dr. Buckley in 1944 to ascertain the effect of selective clearing on the density of *S. Neavei*. To this end daily fly catches (*S. neavei*) were made and the result compared with those made in an uncleared area (Kodera District) some twelve miles away. The results so far indicate that no obvious reduction in the number of *S. neavei* has been achieved.

(*l*) Some samples of sandfly netting supplied by Professor T. H. Davey, Liverpool School of Tropical Medicine, were tested under practical conditions at Mombasa. The ideal type of sandfly netting has yet to be discovered.

(*m*) Field experiments as well as laboratory tests have been carried out in connexion with the quest to discover an effective insecticide for use against ticks. Certain tick-infested huts near Kisumu were selected and treated with 666, D.D.T. and pyrethrum. Results will be conveyed in a separate report at a later date.

(*n*) As a result of an outbreak of louse-borne relapsing fever, members of this Division proceeded to Mariakani in November and carried out control and investigation in association with Drs. Philip and Davies. The louse transmission of the disease was proved.

(*o*) Live monkeys and bush babies from Gedi and sera from monkeys shot in Langata Forest were dispatched to the Rockefeller Yellow Fever Institute, Entebbe, for mouse-protection tests. Two monkeys (*C. aethiops johnstoni*) and two bush babies (Galago species) from Gedi, as well as sera from two monkeys (*Colobus polykomos kikuyuensis*) shot in Langata Forest proved protective.

(*p*) A snail survey in connexion with *Schistosomiasis* was carried out at Nyeri during the month of October. *Biomphalaria pfeifferi* and *Bullinus tropicus* (vectors species) were collected—none were infected.

(*q*) D.D.T. emulsion was applied to a river in Kikuyu and all Simulium larvæ and pupæ were destroyed.

Yellow Fever Control in Kenya

As in previous years, a system of yellow fever control was carried out on a Colony-wide scale during the year 1945, but with the following modifications. Early in the year control was withdrawn from Kisii, Kendu Bay (South Kavirondo) and in Maragoli District, including Awesara Kisa and Bunyoro Kima (Central Kavirondo). Control was withdrawn from Takaungu and Mambrui (small coast ports) as the number of dhows using these ports is so small that it is considered that dissemination of mosquitoes would be negligible.

Mosquito control is carried out in all the large coast towns, including Lamu, Malindi, Kilifi, Mombasa and Vanga. Control is also exercised over the whole of the railway system from Mombasa to Nakuru, Nakuru to Kisumu and Nakuru to Myanga on the Uganda border, including all the branch lines.

All towns and villages on main trunk roads leading into Uganda from Kenya are also under control; these towns include Kitale, Eldoret, Kakamega, Mumias, Malakisi and other small towns and villages.

In the smaller towns and villages mosquitoes are controlled only in houses and compounds, whilst in the larger towns such as Mombasa, Nairobi, Nakuru, Eldoret, Kitale, Kakamega and Kisumu more comprehensive control measures are in force, these include house control, outside control other than compounds and control of tree-hole breeding.

All ships and dhows using the major coast ports are inspected and disinfected on arrival, and in certain cases before departure. There exists at Kisumu a similar service which deals with all lake steamers, lighters and dhows using that port.

All aircraft, land and seaplanes, from foreign ports are disinfected on arrival and before departure at Mombasa and Kisumu as a routine measure.

TABLE I

AEDES INDICES IN VARIOUS TOWNS IN KENYA 1941 AND 1945

STATION	1941		1945	
	Yearly Mean	Highest Index for the Year	Yearly Mean	Highest Index for the Year
Lamu	7.91	18.0	0.32	1.7
Mombasa Island	9.4 (1937)	?	0.43	0.8
Mombasa Mainland	18.9 (1937)	?	0.6	4.2
Kwa Jomvu	3.08	17.47	0.19	2.25
Kilifi	1.83	6.0	1.06	2.3
Malindi	3.85	7.3	0.22	1.6
Vanga	7.9	11.5	0.54	2.9
Nairobi	5.8	5.8	0.09	0.56
Nambare	5.01	15.04	0.00	0.00
Miritini	5.33	38.8	0.43	6.3
Mazeras	6.86	54.9	0.46	1.7
Mariakani	7.82	50.4	0.12	1.4
Samburu	2.44	20.0	0.27	2.3
Kibwezi Area	12.7	28.1	0.00	0.00
Ft. Ternan	2.5	9.3	0.35	7.0
Muhoroni	1.51	4.7	0.30	2.6
Kibigori	4.46	11.7	0.45	3.0
Miwani	4.12	10.8	0.46	5.0
Kibos	4.15	12.7	0.11	2.1

The efficacy of control is illustrated by the comparative figures for 1941 and 1945 (Table I). In general, the measures have been satisfactory, though two disquietening features exist, viz:—

1. A high index of adult *A. aegypti* in bush at Mombasa.
2. The presence of animals immune to yellow fever on the coast and at Langata.

Publications by Members of the Staff

"Ethiopian Culicidæ: Descriptions of two East African larvæ not hitherto described, and a new sub-species from Abyssinia (*Diptera*)," by E. C. C. van Someren. Proceedings of the Royal Entomological Society of London; Series B.—Taxonomy. Vol. 14, parts 5-6, June, 1945.

"Malaria Epidemics at exceptionally high altitudes in Kenya", by P. C. C. Garnham, *British Medical Journal*, Vol. II, July 14th, 1945.

"The Role of *Anopheles Pharoensis* Theobald in the Transmission of Malaria in Kenya Colony", by P. C. C. Garnham, *Ann. Tropical Medicine and Parasitology*, Vol. 39, No. 2, October 10th, 1945.

ANNUAL REPORT OF THE MEDICAL RESEARCH LABORATORY, 1945

Staff

Senior Pathologist	1
Pathologists	2
Medical Officers	2
Biochemist	1
Medical Biochemist	1
Laboratory Superintendent ...	1
Laboratory Technicians	4
Junior Laboratory Technicians ...	2
Laboratory Assistants (Asiatic) ...	4
Laboratory Assistants (African) ...	8
Clerk	1
Storekeeper	1

A.—Administration

As this is the first Annual Report since the cessation of hostilities, it seems opportune to review very briefly the activities of the Medical Research Laboratory during the years of the war.

In the Annual Report for 1938 attention was drawn to the shortage of European staff and, as the position had not altered in any way when the war started, the Laboratory faced the war years with a staff barely adequate for pre-war peacetime requirements. The situation was eased, however, by the fact that no overseas leave was granted until July, 1944, when one pathologist proceeded to England. With the declaration of war by Italy, the question arose as to how best to utilize the small laboratory staff, and it was decided that one laboratory technician should be seconded to the East African Forces and that the rest should be retained to carry on their civilian duties, while, at the same time, assisting His Majesty's Forces in every way possible.

The degree of assistance given can best be appreciated from the following figures, and the great bulk of this work was done between June, 1941, and December, 1944.

Laboratory examinations	102,734
Vaccines issued	1,052,538 c.c.
Glucose saline issued	2,685,000 c.c.
Metallic bismuth issued	186,600 c.c.
Culture media issued	67,440 c.c.
Khan antigen issued	9,475 c.c.

(Manufactured in the Laboratory)

This does not include the work done in the Mombasa Laboratory, which performed a large number of examinations for the Forces stationed in the coast area.

The figures given do not represent the full impact of the war. In the year 1939 the number of specimens examined was 48,929 and 148,785 c.c. vaccine were issued. Owing to the large influx of civilians into Nairobi consequent upon its becoming the Headquarters of the East African Forces, an additional strain, increasing year by year, was thrown on the resources of the Laboratory. So much so, that during the past year, when little military work was done, the number of specimens examined had risen to 76,581, and the vaccines issued to 481,795 c.c. Each year of the war has shown a widening of the scope of the Laboratory's activities with a consequent increase in its value to the medical practitioner.

During the early days of the war in East Africa the staff made themselves responsible for the technical training of Africans for the Army. As this personnel became available and the Forces in the Colony were augmented, the work performed by the Medical Research Laboratory for the Armed Forces changed, and from simple routine examinations it became more and more highly technical in character.

In 1941 the first East African mobile laboratory was equipped from this Laboratory and, for a period of over two years all the sterilizing of drums and dressings for No. 2 (Southern Rhodesian) General Hospital and the Lady Moore Military Hospital was done in the Laboratory. When No. 87 General Hospital arrived in Nairobi accommodation was made available for the staff of their Pathology Department in the Laboratory for one year. When room was eventually found for them in the precincts of the hospital this accommodation was handed over to the Military Analyst, who was still in occupation at the end of the year.

The Laboratory staff has always been available for consultation, and the resources of the Laboratory were at the disposal of those either engaged or interested in laboratory work to carry out any investigations they desired. That this was fully appreciated by South African, Southern Rhodesian and Imperial doctors was evidenced by the fact that it was a rare occasion when a Medical Officer from the Forces was not found in the building. It is hoped that these officers derived as much benefit from their visits as did the Laboratory staff, and it is with great regret that we have watched their gradual departure from East Africa.

The Senior Pathologist wishes to place on record his great appreciation of the co-operation shown and the work done by every member of the staff—European, Asian and African—of the Medical Research Laboratory during the years of the war. The volume of work could not have been carried out had not every member been actuated by a sincere desire to do his utmost to help in the successful prosecution of the war.

It has become evident during recent years that increased laboratory facilities will have to be provided throughout the Colony, and at the present time there is an urgent demand from both Government and civilian practitioners for these services. The immediate needs are the provision of a Clinical Pathologist to take charge of the Laboratory in Mombasa, a European technician for Nakuru, and one for Kisumu, and a general increase in the numbers of the African staff. There is also a very urgent need for a European laboratory technician to devote his whole time to the training of African personnel. Laboratory accommodation must be improved throughout the Colony, and in Nairobi proper housing must be provided for small animals along with increased store space.

B.—Section of Medical Biology

SPECIMENS

During the year 37,192 specimens have been examined.

(*a*) *Faeces Examinations.*—

	European	Asian	African	Total
Helminths—				
Tænia	15	13	1,064	1,092
A. lumbricoides	8	22	427	457
Ancylostoma	31	16	693	740
S. mansoni	38	10	136	184
E. vermicularis	12	8	41	61
T. trichura	54	26	231	311
H. nana	1	3	16	20
T. colubriformis	12	8	13	33
S. stercolis	12	4	173	189
Protozoa—				
E. histolytica (active)	7	—	40	47
,, (cysts)	32	10	80	122
E. coli	354	124	1,328	1,806
I. butschlii	78	27	468	573
G. intestinalis	129	26	194	349
G. mesnili	89	16	304	409
I. hominis	—	—	4	4
E. nana	—	—	—	—
Unidentified flagellate cysts	358	156	1,245	1,759
Charcot Leyden crystals	138	27	177	342
Number of negative stools examined	1,385	510	1,329	3,224
Total Number of stools examined	2,621	1,176	6,672	10,469

(b) Urine Examinations.

Number of urines examined	193
Ova of S. hæmatobium found	25

(c) Miscellaneous Examinations.

Various examinations performed	45

(d) Blood Examinations for Parasitic Infections.—

	Europeans	Asians	Africans	Total
P. falciparum	306	285	1,091	1,682
P. falciparum crescents	2	14	69	85
P. vivax	3	6	—	9
P. malariæ	7	4	17	28
P. ovale	1	—	2	3
P. wilsoni	—	—	—	—
Mixed infections	1	—	5	6
M. bancrofti	—	—	1	1
M. perstans	—	—	12	12
T. recurrentis	—	6	28	34
Leishman—Donovan bodies	—	—	1	1
Total Number of negative slides	3,837	3,774	12,246	19,857
Total Number of slides examined	4,127	3,976	14,404	22,507

(e) Hæmatological Examinations.—

	Europeans	Asians	Africans	Total
Differential cell counts	1,073	349	35	1,457
Total blood counts	1,002	201	953	2,156
Leucocyte counts	124	7	214	345
Platelet counts	2	—	6	8
Reticulocyte counts	3	1	8	12
TOTAL	2,204	558	1,216	3,978

C.—Section of Biochemistry

1.—STAFF

The staff of the section consisted of the Biochemist, the Senior Laboratory Technician, the African Assistant Biochemist and three Africans.

2.—ROUTINE WORK

The following table shows the number and nature of the routine examinations and their distribution as between civil and military sources. With the end of hostilities the number of the latter had fallen by the end of the year to an almost negligible amount.

	Civil	Military	Total
(*a*) *Urine*—			
Routine examination, *i.e.*, reaction, specific gravity, albumin, sugar and deposit	3,238	106	3,344
Sugar and acetone	125	3	128
Spectroscopic examination	7	—	7
Albumin—qualitative	9	—	9
Albumin—quantitative	2	1	3
Sugar—qualitative	15	3	18
Sugar—quantitative	3	—	3
Deposit	55	5	60
Albumin and deposit	4	—	4
Albumin and sugar	3	1	4
Diastatic Index	3	—	3
Quinine	1	1	2
Bile	35	—	35
Acetone	2	—	2
" M. & B." crystals	5	—	5
Calcium	2	—	2
Melanin	1	—	1
Chlorides	5	—	5
Bile and casts	1	—	1
Methylene blue test	1	—	1
TOTAL	3,517	120	3,637
(*b*) *Blood*—			
Urea	385	29	414
Sugar	36	21	57
Calcium	5	—	5
Inorganic phosphate	1	—	1
Phosphatace	1	1	2
Calcium, inorganic phosphate and phosphatace	1	—	1
Calcium and CO2 combining capacity	1	—	1
CO2 combining capacity	—	3	3
Cholesterol	6	8	14
Total proteins, albumin and globulin	10	4	14
Sodium	2	—	2
Potassium	1	—	1
Uric acid	2	4	6
Carbon monoxide	2	—	2
Icteric index	9	4	13
Van-den-Bergh test	38	5	43
TOTAL	500	79	579
(*c*) *Fæces*—			
Occult blood	45	1	46
Bile	1	—	1
Microscopic examination	2	—	2
TOTAL	48	1	49
(*d*) *Cerebrospinal Fluid*—			
Various examinations	325	4	329
(*e*) *Miscellaneous Examinations*—			
Renal calculus	1	—	1
Biliary calculus	1	—	1
Ascitic fluid—specific gravity and protein	13	—	13
Ascitic fluid—protein	3	—	3
Pancreatic fluid	1	—	1
TOTAL	19	—	19
(*f*) *Physiological Efficiency Tests*—			
(*i*) Renal efficiency tests—			
Urea concentration tests	8	1	9
Urea clearance tests	3	6	9
(*ii*) Pancreatic efficiency tests—			
Sugar tolerance curves	59	2	61
Fæcal fat estimations	8	1	9
(*iii*) Gastric contents analyses—			
Fractional test meals	102	20	122
Single gastric specimens	1	—	1
(*iv*) Basal metabolic rate estimations	23	7	30
(*v*) Vitamin C saturation test	—	1	1
TOTAL	204	38	242

During the year the preparation of metallic bismuth was maintained and 206,500 doses were sent to Medical Stores for distribution throughout the country. Solutions for intravenous injection continued to be prepared and of 730 litres of glucose saline, 539 went to civil and 191 to military hospitals. Smaller amounts of other similar preparations issued were 54 litres of glucose, 11 litres of sodium sulphate and 14 litres of gelatine solutions.

3.—RESEARCH WORK

The absence on leave of the Biochemist and the Senior Laboratory Technician curtailed the amount of investigational work that was conducted. Data were, however, obtained on the composition of different varieties of wheat grown in East Africa. Twenty-one samples belonging to twelve different named varieties were examined for moisture, nitrogen, ether extract, fibre, total and acid-soluble ash, total phosphorus, phytic acid phosphorous and thiamine contents, and the weights of 100 grains of each sample were also recorded.

The preparation for final publication of the data collected on the physical development of European schoolchildren in Kenya was being continued at the end of the year.

D.—Section of Pathology

1.—STAFF

This section was under the charge of a pathologist throughout the year.

2.—POST-MORTEM EXAMINATIONS

European.—		
Aneurysm Aortic ruptured	1	
Cerebral hæmorrhage	2	
Cerebral thrombosis	1	
Encephalitis	1	
Pneumonia	2	
Septicæmia	2	
Violence	3	
	12	12
Asian.—		
Coronary thrombosis	2	
Violence	8	
	10	10
African.—		
Death due to causes other than disease	73	
Cardio vascular system	7	
Respiratory system	38	
Alimentary system	22	
Genito urinary system	6	
Central nervous system	8	
Neoplasms	6	
General disease	14	
	174	174
Total		196

3.—HISTOLOGICAL EXAMINATIONS

Specimens were received from 1,041 cases and were reported as follows:—

African.—	
New Growths—Benign:—	
Adamantinoma	3
Adenoma	9
Angioma	14
Colloid Goitre	1
Chondroma	4
Dermoid Cysts—	
Ovarian	5
Subcutaneous	3

African.—(*Contd.*)

Endothelioma	1
Fibroma	16
Fibromyoma	3
Leiomyoma	1
Lipoma	4
Naevus	1
Neuroma	1
Papilloma	7
Osteoma	5
Ovarian cysts	2
New Growths—Malignant:—	
Carcinoma	38
Choriœpithelioma	1
Epithelioma	33
Glioma Retinæ	2
Lymphœpithelioma	1
Melanoma	5
Neuroplastoma	1
Osteoclastoma	1
Salivary gland tumour	5
Sarcoma	41
Thymoma	1
Wilson's tumour	2
Specific Infections:—	
Actinomycosis	1
Amœbiasis	5
Bilharzia	4
Cerebral Malaria	3
Diphtheria	1
Gonococcal Peritonitis	1
Leishmaniasis—	
Visceral	2
Cutaneous	1
Leprosy	5
Molluscum contagiosum	1
Meningococcal Meningitis	1
Onchocerciasis	3
Pneumococcal Septicæmia	2
Staphylococcal Pyæmia	2
Syphilis	14
Tuberculosis	64
Typhoid	3
Various apparently non-specific conditions	145
Other Conditions:—	
Abortion	2
Acute appendicitis	4
Ainhum	1
Amyloid Disease	1
Aplastic Anæmia	2
Bronchopneumonia	3
Cerebral Abscess	1
Cerebral Thrombosis	1
Chronic Mastitis	2
Cirrhosis of Liver	3
Ectopic gestation	1
Eczema	2
Embolism	1
Encephalitis	1
Hydatidiform Mole	1
Infarction	3
Kaposis Disease	4
Kwashiorkor	3
Lichen Verrucosus	1
Lichen Planus	1
Lymphatic Leukæmia	1
Mossy Foot	7
Necrosis of Liver	2
Nephritis	2
Obstruction to duct of salivary gland	4
Plantar Wart	1

African.—(*Contd.*)	
Pyomyositis	3
Sarcoid	2
Sebacious Cyst	3
Uterine Curettings	12
Xanthoma	1
European.—	
New Growths:—	
Benign	40
Malignant	30
Inflammatory lesions	31
Other conditions	73
Asian.—	
New Growths:—	
Benign	2
Malignant	5
Other conditions	18
Normal Tissues	41
Tissues sectioned for other laboratories (mainly military) and reported on by them	47
Unfit for examination and abandoned	10
Not diagnosed, not reported on for lack of clinical information, or showing no classifiable abnormalities	47
Sent for examination for some specified condition which was not found	40
Post-mortem tissues not included above	105
Animal Tissues	7

4.—KHAN TESTS

Eighteen thousand, nine hundred and sixty-one specimens were received and gave the following results:—

	Positive	Negative	Doubtful	Unfit for Test
Sera	5,031	12,729	687	436
Cerebro spinal fluids	4	69	2	3

All antigen used was prepared in the Laboratory from fresh ox heart dried and ground immediately before extraction. 3,775 c.c. of antigen were supplied to Military Laboratories in the East African Command and to Government Laboratories in Kenya, Rhodesia, the Sudan and the Seychelles.

5.—MISCELLANEOUS EXAMINATIONS

Friedman Tests	194
Blood group determinations	149
Dark ground examinations	109
Blood sedimentation rates	202
Others	36

6.—SPECIAL INVESTIGATIONS

In collaboration with the Military Authorities, the presence of a focus of Kala-Azar in Somaliland was revealed and was reported to the Directors of Medical Services, civil and military. The report has not yet been acknowledged, and it is not known whether any investigations have been made on the spot.

A pathologist visited Mariakani in December in connexion with the outbreak of relapsing fever there.

E.—Calf Lymph Section

During the year the Vaccine Lymph Section has been under the control either of a Laboratory Technician or the Laboratory Superintendent.

One Grade I Senior African has been in charge of this section the whole year.

Owing to outbreaks of smallpox and the consequent heavy demands for vaccine lymph, double production was commenced and thus 30 calves were obtained weekly when possible, as against the usual number of fifteen. Before any benefit could be realized by this double production is was found necessary to purchase lymph from South Africa and Palestine to tide the Colony over a possible serious shortage.

The quality of the calves left much to be desired, and every endeavour has been made, with the kind co-operation of the Veterinary Department and the District Commissioners, to obtain the best animals available in the reserves. Unfortunately, many have been male calves.

Total number of calves received	990	
From which lymph collected	941	
Rejected, failed and died	49	
Total number of grammes of pulp collected	17,099.4	
Average yield per calf (grammes)	18.7	
Total number of doses:—		
Prepared	5,984,790	
Purchased	1,750,000	
Total ...	7,734,790	
		7,734,790
Balance, 31-12-44		3,800,936
Issued to:—		
Kenya	3,275,216	
Uganda	3,200,880	
Tanganyika	1,014,000	
Zanzibar	15,200	
Seychelles	1,200	
Military (East Africa Command)	265,230	
Total issues ...	7,771,726	
		7,771,726
Balance on 31st December, 1945 ...		3,764,000

F.—Section of Bacteriology

1.—ROUTINE SPECIMENS

Eleven thousand, four hundred and fifteen specimens were received for examination, of which 2,485 included investigation by culture.

2.—VACCINES

	Quantity Issued
Plaugue Vaccine	204,275 ml.
T.A.B. Vaccine	127,580 ml.
T.A.B. Vaccine (dilute)	3,000 ml.
T.A.B. Vaccine (for protein shock)	2,640 ml.
Rabies Vaccine	20,320 ml.
Various Mixed Vaccines	4,055 ml.
Autogenous Vaccines	48 courses

3.—SEROLOGY

Two thousand, two hundred and thirty-one sera were received for examination by agglutination tests. Of these, 1,939 were taken from Africans.

4.—ANTISERUM

	No. of ampoules issued
Tetanus antitoxin (3,000 units)	542
Tetanus antitoxin (20,000 units) ...	732
Diphtheria antitoxin (16,000 units) ...	228
Diphtheria antitoxin (2,000 units)	130
Diphtheria prophylactic	2,452 courses
Anti-dysenteric	45
Anti gas gangrene	97
Anti venene	115
Anti anthrax	48
Anti typhoid	67
Anti meningococcus	32
Anti streptococcus	19

5.—PENICILLIN

A Laboratory Technician was responsible for the production of practically purified penicillin, prepared and issued 11,577 ml. containing 250 units per ml. for local use. All the imported supplies of penicillin for injection amounted to 50 million units, which were issued for use.

Report of the Working of the Laboratory Attached to the Native Civil Hospital, Mombasa, During the Year 1945

1.—STAFF

The staff was increased by one laboratory assistant on account of the extra menial work entailed in the larger laboratory premises.

2.—FEES

A sum of Sh. 6,585 was charged to private practitioners in respect of laboratory fees incurred by them.

3.—EXAMINATIONS

A total of 46,146 specimens were examined, an increase of 1,767 over 1944. This increase can probably be accounted for by the two outbreaks of relapsing fever; the first involving dhow crews and passengers arriving at Mombasa, and the second a local outbreak in the Mariakani area.

4.—GENERAL

By extensive alterations, the one-time Coast Medical Store has been converted to a laboratory, which has relieved the congestion experienced in the old building and has proved much more satisfactory for the pursuance of laboratory technique.

The arrival of new laboratory apparatus has enabled further work to be undertaken locally, and in the New Year Khan tests and blood ureas will be done on the spot.

Bacteriological work has been held up owing to breakdown of incubators and the non-arrival of the refrigerator from England, as stocks of media quickly became contaminated at room temperature and the hospital refrigerator is being used to a great extent for the storage of penicillin.

The number of total red and white cell counts has shown a marked increase.

ANALYSIS OF EXAMINATIONS

Blood (21,821).—	
Negative for malarial parasites, etc.	13,110
P. falciparum (22 crescents)	3,533
P. vivax	7
P. malariæ	15
Malarial parasites undifferentiated	5
Mixed infection	2
Microfilaria	8
T. recurrentis	548
Differential counts	210
Total White Cell counts	232
Total Red Cell counts and Hæmoglobin	170
Total Red, White, Hæmoglobin and Differential counts	165
Hæmoglobin estimation	355
Blood sedimentation rate	9
Blood group	6
Blood culture	3
Widal tests (Br. abortus 40)	235
Weil Felix tests	92
Glucose tolerance curves	19
Blood sugar single	11
Miscellaneous	2
Fæcal Examinations.—	
O. Tænia	1,109
O. Ascaris	1,395
O. Ankylostomia	1,633
O. Trichuris	835
L. Strongyloides	415
O. S. Mansoni	75
O. S. Hæmatobium	1
O. Oxyuris	50

Fæcal Examinations.—(Contd.)

O. H. Nana	3
O. H. Diminuta	2
Balantidium Coli	5
E. Coli	204
E. Histolytica	316
Giardia intestinalis	67
I. Butschili	123
Chilomastix mesnili	334
Flagellates undifferentiated	777
Negative, ova and cysts, etc.	3,743
Culture	17
Occult blood	16

Urine (S. hæmatobium 412) (8016).—

Routine examinations	7,955
Culture	22
Sugar, per cent	6
Acetone	12
Bile	15
Miscellaneous	6
Sputa, T.B., etc. (Positive T.B. 361)	1,723
Urethral, vaginal, cervical smears, etc., for N. Gonorrhœa (N. Gonorrhœe present 1253)	3,016
Miscellaneous smears, fluids, etc.	96
C.F.S. cell counts	8
C.S.F. organisms	30
Culture, various	10
Throat swabs for K.L.B. (K.L.B. present 5)	58
Water samples	1
Spleen smears (rat) for B. pestis (all negative)	2,278

Specimens sent to Nairobi.—

Blood sera for Kahn test	2,215
Blood filtrate—urea	20
Tissue for histological examination	10

The following is an analysis of the value of the work carried out on behalf of the European Hospital, Mombasa, during the year 1945:—

		Sh.	*cts.*
Blood malarial parasites	503	2,515	00
Blood total count	13	390	00
Blood differential count	32	160	00
Blood total white count	12	180	00
Blood culture	2	40	00
Stools, ova and cysts	339	847	00
Stools, occult blood	6	60	00
Stools, culture	2	40	00
Urines	358	895	00
Urines, culture	1	10	00
Widals	9	90	00
Weil Felix tests	1	10	00
Swabs and Smears—various	9	90	00
Cultures, various	1	10	00
Urethral smears	21	210	00
Sputa	12	120	00
Throat swabs, K.L.B.	5	50	00
C.S.F. Cells, etc.	1	20	00
Fractional test meal	1	50	00
Forwarded to Nairobi.—			
Blood sera Kahn test	16	160	00
Histological examination (urine)	3	120	00
Blood filtrate—urea	1	30	00

LONDON SCHOOL OF HYGIENE
LIBRARY
-2 DEC 1949
AND TROPICAL MEDICINE